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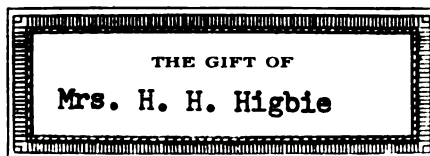
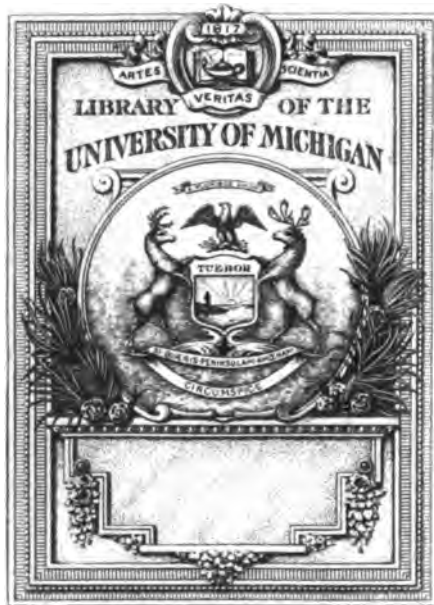
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SCIENTIFIC CHRISTIANITY



DR. GERALD LEIGHTON

"SCIENTIFIC CHRISTIANITY"

SCIENTIFIC CHRISTIANITY

A STUDY IN THE
BIOLOGY OF CHARACTER

BY

GERALD LEIGHTON

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PREFACE

IN placing before the serious student of the phenomena usually termed 'spiritual,' the following attempt to analyse some of the phases of those phenomena, I wish to express my indebtedness to two great English writers in very different spheres.

In the first place, I desire to thank Sir Arthur Conan Doyle for his kind interest in the original manuscript, and for the suggestion made by him which is responsible for the form this book has taken.

In the second place, I wish to acknowledge the debt that every student of heredity owes to Dr Archdall Reid, whose brilliant writings on this subject have so stimulated the thoughts of many. I have quoted freely from his great work 'The Principles of Heredity,' wherever his arguments bear upon the problem of this book, and those arguments have all the greater weight because urged in support of entirely different contentions.

The effort made in these pages is to show that

the whole nature of man is governed by one identical set of laws, which have hitherto been studied and applied in relation to only one part of his nature. The outcome of the argument is that the character and personality of a man, including his spiritual nature, is a biological rather than a theological problem, and must therefore be studied upon biological lines.

There is no theology in this book and the writer is no theologian, but it is just possible that in the efforts made to establish Theology there has been too little seeking after Truth. It seems not unlikely that the Churches of to-day will find themselves faced by the fact, that they have lost their influence with thoughtful men while they have been fighting among themselves for the shadow of sectarian supremacy.

At any rate there are not a few who, like the writer, are convinced that the future evolution of mankind, if it is to be in the direction of higher ethical progress, can only be attained by means of a more Scientific Christianity.

GERALD LEIGHTON.

EDINBURGH, *Jan.* 1910.

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PART I
THE PROBLEM

SCIENTIFIC CHRISTIANITY

Part I

CHAPTER I

THE PROBLEM

NOT many years ago—the oldest among us can readily recall the time—and the association of the two words ‘Scientific Christianity’ would have sounded in the ears of the majority as a contradiction in terms. It may do so still, to an ever-diminishing number. To most of us the words suggest a recollection of a period of bitter conflict and hard words, in which such names as those of Huxley and Gladstone stand out prominently. Still there are one or two questions which at the present day are very apt to come to the surface of men’s minds, and which have not yet been very clearly nor definitely answered. Those questions present themselves to thinking people somewhat as follows :—WHAT IS THE RELATIONSHIP BETWEEN SCIENCE AND CHRISTIANITY? WHAT HAS SCIENCE TO DO WITH RELIGION? IS THERE A PLACE FOR SCIENCE IN THE RELIGION OF CHRIST? WHAT IS THE SCIENTIFIC EXPLANATION OF RELIGIOUS

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PHENOMENA? In some such words, spoken or thought, is this problem shaping itself in the minds of many to-day.

It is important to realise what an immense change has taken place in the space of a single generation in connection with the relative positions of Science and Christianity. As we have said, it is not so long ago when the two *seemed* to be in the most violent and open opposition and hostility. Most men of science were thought to be—and in many cases probably were—absolute materialists, and the epithet of ‘atheist’ was commonly applied to them. That was succeeded by the word descriptive of the mind which no longer denied but admitted ignorance, namely, ‘agnostic.’ The candid statement that ‘we do not know,’ was very often accompanied by the further attitude (not so candidly stated), ‘neither are we interested.’

To-day all this is changed, and it is not too much to say that, in English-speaking lands at least, it is the rule rather than the exception to find men of the very highest position in the scientific world closely associating themselves with religious movements, and identifying themselves with those to whom Christianity is the one thing of supreme importance. It is but a few short years since we saw men like the late beloved Henry Drummond in close friendship and alliance with evangelists like Moody and Sankey, working on a common platform with one common aim, namely,

to endeavour to persuade men that it was possible for them to live the greatest life. It was beginning to dawn upon the world that it was becoming impossible for these two parts of the mental equipment to live for ever divorced, and that there must be some way—if it could only be found—in which Science and Christianity could be shown to have a common element, necessary to both, and bringing both into their true position with reference to each other.

It was the age of Science. In every department of human activity old methods of thought and action were being discarded right and left in favour of modern scientific and up-to-date methods. Great scientific laws and principles were becoming more generally understood, and with the understanding came the immediate application of them in a thousand varying directions, most of these being aimed at making the material life of man more easy and less strenuous. Following rapidly on the heels of the wonders of steam traction came the marvels of electricity, and at the present moment new methods of annihilating time and distance are presented to the world in quick succession. Modern life was developing with an extraordinary speed; and all because of the application of science to practical matters such as means of traction, propulsion, communication, and travel. The tendency permeated into every branch of daily life EXCEPT THE MOST IMPORTANT OF ALL. For a long time

it appeared to leave the religious side of man severely alone and utterly neglected. That part of his mind remained where it was, and those whose business it was to look after it were content to continue on the same old lines, using the same antiquated and out-of-date methods and machinery, on minds which were saturated with the scientific method in every other department of life. The result was inevitable. The minds became impatient,—to put it mildly. Many revolted openly, and far more in silence. Gradually and almost imperceptibly, but absolutely inevitably, the modern scientific mind realised that it was entirely out of touch with the religious methods of the denominations, which were precisely what they were fifty years ago.

It was long before it was realised what was responsible for the undoubted fact, that the Churches were losing their hold over the man in the street. It is not realised yet by those whose business it is to look after his spiritual interests. All sorts of excuses are made for the failure of the Churches to retain his support and interest. The present generation are accused of being wrapped up in the pursuit of pleasure or money, or other things still more objectionable, and are said to be indifferent to the things which pertain to their spiritual life. The fault is put on to them. It is not true. It is our firm conviction that the younger minds of to-day, those which have been nurtured in the atmosphere of universally applied

science, are more seriously interested in ethical problems, problems of life, and thought, and conduct, and feeling, than were such minds at any other time. But when they seek inspiration and instruction from those whose position involves the responsibility of conveying this inspiration and instruction, they are met with a system which has lost all its power to attract and *convince*, because it has neglected to adapt itself to the changed mental attitude of the day. It still uses its antiquated machinery, and therefore succeeds only when it operates on minds which still work in the old grooves. The modern mind—the mind which has been developed as the result of the universality of modern scientific thought—it does not and cannot touch.

The result of this failure on the part of organised religious teaching to appreciate the fact that the raw material upon which it has to act has changed in type, is very curious. The old method was almost exclusively on the lines of an appeal to the *emotional* part of man, and particularly, perhaps, to the emotion of *fear*, as exemplified in the terrible pictures of the horrors of the endless torment in a future life, for those who rejected religious teaching. The appeal was to terror, and terror of the future life, whatever the reason may be, is no longer an effective appeal. The reason for its loss of power is, probably, that it was applied in the form of a mere statement that such and such things would happen, and mere state-

ments no longer carry much weight in the absence of evidence. This is characteristic of the age. It is no longer sufficient for a man to baldly inform the world that he has been to the North Pole ; the world requires him to produce such evidence as will explain how it was possible for him to do so, and a certain number of facts which can be demonstrated to be true. The world has *lost its interest* in mere dogmatic statements.

Is the mistake of modern orthodoxy, then, the fact that it still appeals chiefly to man's feelings and emotions instead of to his reasoning and intellect ? By no means. The mistake is in assuming that the two methods are contradictory and incompatible, and that religious phenomena are beyond the pale of the laws which govern the rest of man's nature. Nothing could be more erroneous than to suppose that the results of Christianity could be obtained in the absence of the emotional faculty, and the successful religious teacher for all time must appeal to the feelings of his hearers, if he is to have any success. But the hearers themselves must first be made to understand—and this is an intellectual process—that feelings and emotions are *governed by law*, and that the results which follow from experiencing certain emotions and feelings are not matters of chance nor caprice, but inevitable and certain. In a word, it must be made clear that these results are intelligible, not mysterious and incomprehensible. This is where the failure has been.

✓ For some extraordinary reason religious teachers have insisted that the sphere in which they operate is beyond the ken of man, above the limitation of natural law, and only to be accepted by an act of faith, not believed in as the result of a process of reasoning. Religious teachers have refused to apply their reason to their emotions, and hence have failed utterly to explain the effects of these emotions. "Nothing can take the place of feeling, for without it the religious instinct misses its supreme satisfaction," says Professor Peake, and we agree that it is in feeling rather than in thought, that man comes nearest to his supreme ideal. But the modern mind requires an explanation of how this comes about, and this is precisely what the Churches have so far refused to give. Hence their loss of influence over a type of mind which is the product of its environment.

It will therefore be seen that we are to-day confronted with a PROBLEM, namely, the problem of the greatest life and how to live it. It is a scientific problem largely of a biological kind, because it involves the life of man and the formation of all that we speak of as his 'character,' including in that term *all* that goes to making him what he is individually.

It is a problem which has presented itself to mankind in many varied guises at different times, but was probably never so difficult to answer as it is to-day, because of the change of attitude towards its elements which we have just been

noting. It is the problem of man's greatest life, and how it may be lived, and it therefore constantly forces itself upon the attention of the most serious thinkers. It is the problem of how to live the life that most nearly attains the highest ideal which has been conceived by human intellect, irrespective of the source of that ideal; and to-day is specially concerned with answering the question—HOW? Not WHY, so much as HOW. That is the modern phase of the old problem; that is the changed attitude.

What is the highest ideal? The answer has varied, and will vary, with succeeding ages and current systems of philosophy, but for our present purpose it matters not what is the *absolute* highest. It is sufficient that the mind of man can conceive or have presented to it a condition of existence which at that time and to that mind appears to be the highest possible, and the problem then immediately presents itself—How may this standard be reached either in the fulness of perfection or even approximately. Observe that the question now is not—Why should the standard be aimed at, but, How may it be attained? By what means; not for what reason. Both are interesting and important questions, but the one seems of importance to the mind of to-day rather than the other.

The ideal has been presented to the world in varied forms according to the time and the originators, but ever since mankind became

thinking beings with a capacity to appreciate *any given standard of right and wrong*, there has been some conception of an ideal life to be attained, for that age the greatest life. It matters not whether that ideal were put forward by a Confucius, a Mohammed, a Moses, or a Christ ; for ages men have had their attention directed to the greatest life, and the problem has been how to attain to it. We believe that the future will show the answer to be by means of a Scientific Christianity.

All the great ethical teachers of the world who have attempted to answer this problem for men, have formulated directions for the guidance of conduct whereby this ideal life might be lived, and as a rule have claimed that unswerving obedience to these rules would inevitably meet with the desired result. These rules have been handed down to posterity in the sacred writings of various religions and by tradition of disciples, and have met with implicit belief in the minds of many thousands of mankind. Such a result could hardly have occurred unless experience had proved that the various systems did more or less accomplish in the lives of men what they promised. By following them in so far as they were able, men did produce in themselves and their fellows such alterations of life and conduct as made them conspicuous among others of their generation, and not infrequently involved them in persecution and martyrdom. In all ages of which we have

any record there have been individuals who have lived approximately the greatest lives attainable by men living in their particular environment, and aiming at their ideal life. The problem which to-day men are asking in this connection is—By what means have they so lived? Not Why, but How.

Once more be it clearly understood, it is not a question of the absolute but the relative. Given the highest standard, there have been ideal lives. The nobler the standard the greater the lives, but the same phenomenon. In other words, there has been in all these efforts with their consequent results, something which has been of universal occurrence and which, therefore, must be something fundamental, some great general principle at work, producing a uniform kind of effect, differing only in degree. This points to the existence of a general Law; and if such exists—as it must do—then this Law should be capable of being expressed in a simple and scientific manner, which should render it intelligible to educated minds which desire to understand as well as to believe.

At one period of the world's ethical history there seemed no special desire on the part of the majority to understand this process or law: that type of mind which yearns for explanations was not yet the ordinary type. It was then sufficient for men to be told that if they did this, that would follow. It was the day of teaching by authority, a day which has gone for ever for most men.

They believed and acted, or they disbelieved and neglected. Some, no doubt, more curious than others, desired more than a mere statement, but they were too few in number for their attitude to receive much attention or to be very obvious. There are still in existence systems of religion in which this ancient method is the only one adopted, but it is the method of the childhood of mankind, and it has now to be realised that a large portion of mankind—no longer in mental infancy—has ceased to find satisfaction in blind acceptance. Growth demands something more. It is inevitable that it should be so.

It is, of course, not disputed for a moment that there is great virtue in obedience and discipline, even when given blindly, but such virtue is part of the equipment of childhood, and should be preparatory only to the obedience and discipline rendered by the adult because of reasoned thought. In the first place the child is, and must be, taught to obey, without there being any desire on its part to know the why and the how. That, however, is but a passing phase, and children very soon begin to ask why they should be expected to do certain things and not to do others. They may and do ask these questions before they can understand that they must be taught certain habits and actions, in the hope that these will become habitual long before any mental conception of their ethical value can be expected. But such a method of training cannot be persisted in indefinitely, with-

out interfering with proper mental growth and development. As the brain of the child grows, an effort should be made to make the child *understand* that the authority hitherto used was based upon something more than the mere whim of the parent or teacher. If such an effort be not made, the child will soon resent the dogmatic and authoritative method adopted, and escape from its chains as soon as possible and on every opportunity. Where these previously sufficed, now they irritate.

So it is in other matters. A large portion of mankind have advanced mentally beyond the stage when blind obedience to command in ethical matters is satisfying; and to continue that method of training one single day longer than is absolutely necessary is to stunt the mental development and ultimately to cause the atrophy of the very faculties upon which all high ethical progress depends. The time comes sooner or later, when the individual rebels against mental slavery no less than against bodily slavery, and the form that the revolt takes is a demand for an answer to the question Why? Hitherto we have done this because we were told to do it. Now we want to know—Why should we do this? Notice that the appeal must now be made to Conscience where formerly it was to Authority. Formerly the answer was, 'Because it is written': now the answer is 'Because it is right.' This is a decided step in ethical progress, and for many

people it suffices for a time, and for some it is sufficient for ever. If a standard of right and wrong can be put before them in which they can believe, they are content to regulate their conduct by that standard as far as possible, because it is right, but not simply because they are compelled to do so.

Then comes the further stage, which is so characteristic of to-day, the stage in which men in course of time fail to find attraction or satisfaction even in the knowledge that this or that is the right and the wrong, no matter how convinced they may be as to the correctness of the standard.

The mind of man has evolved so rapidly that now the search is for not *reasons* merely, but *explanations*. Only in explanation can it find satisfaction. Faith alone is no longer sufficient, that is a condition of the child-mind, which has passed away. That is not to disparage faith nor the child-mind ; it is simply putting both in their relative positions. Men now are seeking to know not only whether certain lines of conduct and thought constitute the best lives, but they desire further to know *how it is* that, if these lines be followed the best lives result. Not 'why' now, but 'how.' Again, the appeal is changed. It passed from that of authority to that of conscience ; it passes in turn from that of conscience to that of Law.

Hence, we believe, the failure—in so far as they are a failure—of present-day religious methods of

appeal to the modern educated mind. There is a new type of mind but the methods remain antiquated. They are practically the same as they were in the mental infancy of the people, and the adult mind is naturally unsatisfied. No longer is the grown-up mind, in the full vigour of its mental acquirements, content to be told 'Believe, Believe, and all will be well.' It is not so much that it doubts the appeal, as it is that it wants to know *how the fact of its believing* can bring about the result prophesied, if indeed it can do so; and until some sort of *explanation* is forthcoming a great many minds ignore the appeal and will do so in increasing numbers.

Some there are still, who remain in the stage of the child-mind—possibly theirs is the easier lot. But there are also many, and they daily become more, who have developed beyond that stage. They are not to be blamed for this, as some would have us think, who ought to realise the reason of the change. It is impossible to educate a mind and at the same time give it contentment, unless it be filled. So well do some systems of religion recognise this fundamental fact, that they take every precaution to *prevent* mental development on the part of their followers by ruthlessly crushing any attempt to probe into reasons, or to ask for explanations. They endeavour to keep their followers for ever in the stage of the child-mind, lest a full mental development on the part of the followers should demand answers to the

Why and the How ; answers which to be satisfactory would require an amount of mental energising on the part of the teachers which would possibly be beyond their powers. Systems which adopt this attitude of suppression of the mind must ultimately, of course, pass away. Man will not for ever be content with the child-treatment in his mental sphere, and indeed, his discontent is becoming very apparent every day. In all religious systems which permit of any individuality of thought this symptom of unrest is prominent. From a thousand pulpits comes the cry that modern education is rendering men less religious. It is not true. Men were never more religiously inclined than they are to-day, but they are demanding a presentation of religious truth which shall be a living one and not a fossil. The food supplied is indigestible and non-nutritious. Men are asking for meat, and at the best are offered milk. Being no longer mental babes they find they are half-starved on the diet proffered.

The plain truth is, that our systems of religious teaching have not kept pace with the march of human intellect in other spheres, and hence of necessity these systems and methods are losing their influence over many minds, and those of the best quality. And the pity of it is that this inability (or unwillingness) on the part of the teachers and exponents of religious truths to adapt their methods of thought and exposition to modern minds, is being used as an argument by the enemies

of religious truth for the abolition of religion altogether. Truly they have their opportunity. The modern intellectual stomach may well reject with disgust the dogmas of an effete theology, which are still so frequently offered to it by many as the only food available for its growth and nutrition. It simply cannot assimilate it any longer; the food no longer fulfils its function; and nothing satisfying has yet been offered in its place.

This is no exaggerated picture. It is a pathetic tragedy to think that even at the present day the great established Church of England expects its congregations on certain set occasions in the year to say of one of their particular 'creeds' that—"This is the Catholic Faith; which except a man believe faithfully, he cannot be saved." Think of the appalling effrontery, and—to the modern mind—utter blasphemy, of such an assertion. Probably very few of those who say the words actually believe them; certainly it is true that many of the clergy even refuse to utter them any oftener than they can help; but still, there they stand, and are hurled forth on occasion, a constant testimony to the utter inability of the sacerdotal mind, to appreciate the loathsomeness of such ideas to the modern intellect. Is it any wonder that cultivated brains, to which such sentiments seem the grossest intellectual immorality, turn away nauseated!

What has happened to bring about this situation

—to account for the fact that the cultivated mind has lost its interest in dogmas? The struggle for sectarian supremacy simply disgusts the finest minds, and interests them not at all. It is perfectly true that the mass of modern educated minds are not worrying themselves over any special beliefs regarding the Nativity of Christ, the Atonement, or the Resurrection of the Body. Even the Life Everlasting is no longer felt to be a simple matter of dogma. The modern mind simply cannot believe that there is or can be any one particular form of religious faith, "which except every one do keep whole and undefiled, without doubt he shall perish everlastingly," as is insisted upon in the charitable creed of the Church of England, already quoted. But this same mind is very keenly alive to the fact, that when a wicked man turns away from his wickedness and does that which is lawful and right, he presents a phenomenon which is not merely of immense interest, but which calls for some explanation as to how it is done. This is the Problem. The case is not an uncommon one; it takes place before our eyes. What has happened?

One hears not uncommonly from the lips of modern preachers that men have lost the sense of sin and the consciousness of guilt, and that as a result they no longer feel any real need of being saved from their sins. In one sense this is true. The old doctrine of innate wickedness and natural guiltiness, the idea that man by nature is hope-

lessly wicked and degraded, is not one which appeals to minds which know something of biological science. Men realise nowadays that much so-called sin is an inevitable accompaniment of human nature. They understand that the Fall of man only began when he first realised there was a possibility of rising. Men also realise, however, that much of this sin has inevitable results from which there is no escape. They know by experience that it is true that whatsoever a man sows that he also reaps, but they no longer on that account arraign themselves as miserable worms of the dust. When men are conscious that there is no escape from a certain amount of wrongdoing, as judged by the standard of the ideal life, that none can quite attain to his own ideal life, that in very truth *errare est humanum*, it is impossible that they should any longer be terribly alarmed by threats of eternal or other punishment for the imperfections inherent in their human nature, or very interested in promises for forgiveness for the same. *In so far as* sinning is inevitable men feel that it need not worry them from that point of view.

But men also realise that there are those in the world who appear almost sinless, or at least very much less sinful than others, and they wish to know how this happens. That is the problem. Some people seem to be born saints ; others, after a longer or shorter period of sinning, appear to gradually change and turn away from their former

mode of living. Others, again, appear to make the alteration suddenly. The problem that suggests itself to the modern mind in this connection is—How are these 'born saints' produced? and in the latter case, What process or processes have these people undergone which have produced in them such a revolution? It is no answer or explanation simply to give the process a name and call it 'conversion' or anything else. The point of interest and importance to men now is not what the process is called but how it is done. If this information be forthcoming they will then see whether it is applicable to themselves. It seems that the absence of any intelligible statement or explanation concerning this problem is *the* reason why the modern mind is turning away so much from allegiance to orthodox religious ministrations. It can no longer breathe their atmosphere. It does not satisfy the intellect; it merely appeals to emotions and therefore restricts its influence to minds of the emotional temperament; all very excellent for them but quite unsuitable for the modern type of mind. Hence the predominance of women in places of worship. The men who are less governed by their emotions in these matters, and who want a religion which is satisfying intellectually as well, are gradually severing their connection with the 'Churches,' and where they are still found associated with them, it is generally on account of some family or other social ties, which seem to

them sufficient reason for their continuing to observe these ministrations. We say nothing of baser motives which attract some. But in their inmost minds these men care little or nothing about the theology of the denomination to which they profess to subscribe and to which they remain formally attached, except perhaps as a machine on which to practise mental gymnastics. Such a man if asked his real reason, and if he gave it candidly, would probably in many cases say, that he went to Church because it made his wife happier, and we are not sure that there are many better reasons.

These men, however, as well as those that have given up orthodox observances, are no less religious than their fathers and grandfathers; in fact, if they be judged by current standards of right and wrong living, they are probably better than the men of any previous generation. If the essence of the divine be the spirit of charity, they are nearer the ideal than men used to be. They no longer, however, feel the necessity nor even the importance of special forms of beliefs. They are beginning to live without these. To this type of mind a dogmatic creed is a positive hindrance to ethical progress. It is a mental clog. It follows, therefore, that if men of this type are to be kept within the sphere of organised religious influence, there will have to be offered to them something more than has hitherto been deemed necessary.

Two things are required from those whose business it is to minister to religious needs. The first is that the position and attitude of the modern mind must be clearly understood ; and the second is that the fullest sympathy must be extended to that attitude. It need hardly be said that this is far from being the case at present. No one has any right to blame them for their dissatisfaction. These men are mentally the product of their modern environment. In every sphere of mental activity, except in that of religion, their position is clearly recognised and even encouraged. A modern student of astronomy who in this department of knowledge remained content and satisfied with the explanations of the fifteenth century, would be laughed to scorn, although the phenomena he was studying were the same then as to-day and although astronomical truth remains the same. The methods of study, however, have changed, as have the methods of teaching the truth. It is only in the department of religious truth that no advance is made in the methods of study and teaching. It is quite true that there are many religious teachers who recognise that the old methods of presenting those truths are now impotent, but they are apparently prevented by militations of one sort or another from giving vent to what their reason and intellect assures them to be the only way. If they make an effort to leave the old beaten track, in order to meet modern mental requirements, they are immedi-

ately labelled 'dangerous' by their old-fashioned or more orthodox brethren, and they do it at the risk of their own prosperity professionally. A well-known preacher told the writer that it was not the pulpit but the congregation that was too 'orthodox.' So far as that is true, it means in plain words that the ministers of religion are afraid to speak freely to the more intellectual of their hearers because of the number of less cultivated minds. They must therefore preach to the latter only! The same minister told the writer that the men who are really thoughtful and who feel the need of a statement of religious truth which shall be more intellectually satisfying, will find it for themselves and need not have it preached to them. The reply to this is, that these are the very men who are thirsting for some indication of the lines they may reasonably follow. For lack of this guidance many are lost entirely to the religious organisations in which they were brought up and to which they are drawn by many ties, and are forced to lead an existence, which, so far as their religious life is concerned, is an isolated one. It is for such minds that we write: theirs is the problem. They are found in every denomination and amongst all the educated classes (and all classes are becoming more and more educated), predominating, of course, in those religious bodies which permit of some width of view. Especially common are they in the ranks of the younger men amongst us who are

studying for, or who have recently joined, the ranks of one or other of the learned professions ; and most particularly amongst those whose training has involved a study of modern biological science.

The thoughtful observer of the mental tendencies in this younger generation of well-educated men cannot fail to be deeply impressed with the great fact that their predominant feeling about religion is—that if the truths about any religion are indeed very truths, then there ought to be and must be some scientific basis for them, and some scientific method of presenting them. There must be a Scientific Christianity to be learnt somewhere or some day. There ought to be and must be some intelligible way of stating the essential truths, which it is the object of any religion to convey. Those who know this class of man best, will find that the possibility of miracles is not a source of anxious worry—miracles are more common every day, and it is their business to study and investigate wonderful phenomena ; neither is it a matter of great concern to find a dogmatic statement of the Incarnation or the Resurrection which will satisfy reasoning and intellectual beings ; nor is there any agonised crying out for a merciful judgment of failings which are recognised to be to a large extent inevitable to human beings. Doctrines and dogmas about any or all of these ideas are not regarded as of supreme importance. There is

not any great anxiety to find proof to substantiate even a belief in Immortality. These men seem to feel—if we interpret their minds rightly—that all these and similar doctrines are but, so to speak, the ornaments of some special form of religious creed, matters which may and do appeal with more or less force to various minds, but which do not form the basis or foundation of religious experiences, at least as far as they are concerned. Not that it is amongst students of the sciences alone that intense dissatisfaction exists on these matters, because almost everybody receives some little education in matters scientific nowadays, sufficient at least to induce in them a different attitude of mind to that of former generations. This is partly also due to the cheapness of books and, of course, to universal compulsory schooling. When all can read, it follows that much is read.

So these religious experiences which are common to all men, whatever their creed may be—Christian, Mohammedan, or Agnostic—are found to be extremely similar, and the mental processes involved so much alike that they suggest something in common. We observe that these mental processes find their expression in the approval or disapproval of certain codes of morality, and certain lines of conduct and thought, altogether apart from any special creed or form of belief or dogma. The power of these religious beliefs to work very wonderful changes in the lives of men and women is perfectly obvious, examples can

be seen daily. Take, for example, such a book as that by the English novelist, Harold Begbie, namely, 'Broken Earthenware,' which the author himself describes as a footnote in narrative to Professor William James's study in human nature, 'The Varieties of Religious Experiences' (Hodder & Stoughton). This book is a simple statement of the study of the raw material of conversion, the study of broken earthenware of men and women which was mended and became whole, "strange and almost inconceivable material," which causes the writer to express his astonishment that "all the terrible tragedy, all the infinite pathos, all the amazing psychology, all the agony and bitter suffering, all the depth and profundity of spiritual experience, was discovered in a single quarter of London." As Mr Begbie deals with the characters in turn, and studies their psychology in his own exquisite style, the thought comes to one again and again with renewed force, How did the light come to these amazing personalities, what was the process by which these radically bad people were changed into radically good people. For the thing was done, and is being done daily, and therefore is a process open to observation, and demanding a reasonable explanation, despite the orthodox preacher. "Whatever we may think of the phenomenon itself, the fact stands clear and unassailable, that by this thing called conversion men consciously wrong, inferior, and unhappy, become consciously

right, superior, and happy. It produces not a change but a revolution in character." How is it done? That is the problem. And when it is further observed that there are some men and women who live this human life almost without exhibiting any sign of wickedness at all, again we are brought face to face with a phenomenon which is worthy of, and indeed demands, most careful investigation.

These are the phenomena, then, which are the object of our investigation; the explanation of this problem is the object of which we are in search. Men to-day want to be shown *how* it is possible by religious influences to accomplish phenomena which they see, and which are attributed to this source. It is no use telling them dogmas, they have lost all belief in the power of dogma to accomplish results like these. What they want is a scientific and therefore *natural* process in accordance with any known law or laws, which can be invoked to account for what they know occurs. In a word, what men want to know is—Is there such a thing as a Scientific Christianity, or, are those who are impelled to thus enquire for ever to be regarded as perverse and faithless? To so regard them is to inflict upon the real religious community a grievous misjudgment. The Rev. Washington truly said of the present day, "There may be less churchianity. There is certainly more Christianity of a practical type." Unfortunately practical Chris-

tianity does not seem to commend itself to the orthodox mind as a desirable substitute for regularity in religious observances. The writer heard a preacher say recently that "it was an absolute mystery to the clergy why so many *men* were found absent from church on Sunday," and so long as the clergy continue to look upon attention to their particular observances as the one and only test of Christianity, so long will the absolute mystery remain. Whether we like it or not the plain truth is, that the age of acceptance *by faith alone* of anything, even truth itself, is gone for ever, except for the child-minds.

Some of us who have had considerable experience of our fellow-men have become convinced that it is the lack of a scientific explanation of things seen in the religious sphere which is mainly responsible for the condition of things with regard to belief. It is not by any means that men do not wish to believe, but it is that they cannot do so any longer in the old way; it is impossible that they should and eminently undesirable. Is progress to be made in every conceivable direction but in that of the mode of presenting religious truth? Is modern education and training in scientific method to be applied to everything except the moulding of religious thought? If so, then religious thought must perish—for the modern scientific mind, for most men cannot keep such a large part of themselves uninfluenced by all else they know, though some few can do so.

It would mean that all orthodox religious thought would be confined to the most ignorant and uneducated, simply because men will think on these things as reasoning beings and form their own conclusions. The difference will be that such men must remain as unorganised units.

It never seems to occur to the good folks who demur to the modern attitude that *all* our ethical ideas have changed immensely as man has evolved. Take, for example, our ideas of justice. The legal enactments of to-day, if by no means perfect, are at any rate a vast improvement upon those of our forefathers of the Old World, and what appeared to them as right and just would be tolerated by no civilised nation to-day. We no longer hang a man legally for stealing a sheep, nor do we conceive that justice is met by the substitution of an innocent person for a guilty condemned criminal. We think it more in accordance with justice that if the guilty person cannot for some reason be made to suffer for his own fault, that he should go free rather than some innocent person should suffer for him. Our attitude to the ethics of justice has changed ; the science of justice has progressed, our ideas of what is right in the matter have altered.

But when we come to religious matters, we are told that there is no need to make any progress of this kind, it is most unorthodox. What was sufficient for our forefathers should be so for us. We must still feed on the nourishment offered to

the world when it was in religious infancy ! Is it any wonder that the religious stomach of to-day cannot assimilate the old food, or that it is found insufficient for the nutrition of the more fully grown body ! True there are plenty of religious babes still in the world who still demand the treatment of infancy and for whom that treatment is the only scientific one ; but there are also still more religious men, and some women, who are demanding to be treated as adults. For these latter it is not enough that they should be simply told to believe ; they have been taught all their lives to believe nothing which is incapable of scientific statement, or which is out of harmony with the rest of natural phenomena. And, besides, they wish to understand, as well as to believe ; belief without comprehension, for them spells indifference and religious sterility. If the possibility of any explanation is denied, or if the right of enquiry is forbidden, it simply means that for them the subject is taken out of the list of those in which they take an interest.

The greater part of this book, then, is a humble effort to search out a true scientific basis of religious phenomena ; to find, and state if found, some law in accordance with which religious experiences seem to occur. There must be some such definite law producing processes which we see bring about definite results. If we regard these phenomena and experiences to be common to all—and when we talk quietly and privately

to men we find they are so—then we are justified in expecting some light from such a search. And should we find in our enquiry into human characters that there are laws and principles which seem to govern man's development in every direction and in every part of him, we shall also be justified in applying these same laws to the religious sphere in order to observe if they are equally applicable there. These experiences are certainly mental, and therefore our statement is not an analogy, unless the mind of man is something perfectly distinct from the rest of him. Analogies compare things different; we are searching for laws which govern things similar. It is not of great importance whether the particular view to be put forward is absolutely correct, but the fact that it has helped not a few already, is the justification of its appearance in this form.

Our study and statement of it will, of course, not appeal to all; no view can do that because all are not constituted alike mentally nor equally developed intellectually. To some it may appear too simple, to others too complicated. A thousand minds see an identical truth in as many different aspects, absorbing its elements and essence in as many varying proportions. So one person gazing consciously at the landscape before him sees only the hamlet in the immediate foreground, whilst his companion beside him, unconscious of the hamlet, has his attention riveted upon the far-off peak half-hidden in the distant clouds. It is not

too much to hope, however, that the explanation of character here proffered be of interest and assistance to some in the direction of pointing out that there is solid scientific ground—not mere assertion—for expecting certain definite results to follow certain equally definite processes.

We are well aware that there are those in matters religious, as in other matters, who require nothing more than to be told what to do, and they will do it. These have their reward in the result obtained, and if mental effort is a thing to be avoided, they are to be envied. In virtue of their child-like attitude they are saved much if not all of the struggle that is the heritage of adult life. Our concern is not with them. We refer to them in no critical or derogatory spirit, nor do we use the term 'child-like' in any tone of reproach, but simply descriptive of a stage of development. But our task is with the others, the possibly increasing number of others, whose minds are so constituted that they must ask Why and How. To the former, this book will not appeal at all; they would probably read it, if at all, with feelings of considerable impatience. But we would earnestly contend that they need have no quarrel with those in the latter group, if perchance one single mind should be stimulated to think again on these or other scientific lines. To the former the problem is non-existent; to the latter it is the one thing that matters.

There are people, even scientific people, who

are able to separate their religious thoughts from all others and keep them in a mental compartment all by themselves, so that they are uninfluenced by all other thoughts, untouched by all that the thinker knows of all other phases of his life. These people do exist, but they are becoming fewer every day. It is possible for a man to be at one and the same time a Neo-Darwinian and a Roman Catholic, but it is possible for far fewer than it once was. Such a man absolutely refuses to allow his scientific knowledge to influence his religious beliefs, the latter are kept in a sphere by themselves. He does not apply his science to religion, because he does not feel the need of a Scientific Christianity. But he need not quarrel with those who do. The latter more numerous people are those to whom the modern scientific conception of the world and human life carries its influence into every phase of their existence, and it is from these that the demand comes for a scientific presentment of religious truth. To them the solution means much, because if their scientific training prevents the unquestioning acceptance of religious truth, there are only two possible results. The one is that religious truth is beyond the sphere of scientific investigation and statement, *in which case it is not for them*. The other is that religious truths are capable of scientific investigation and statement, in which case they become of greater interest and importance than anything else.

These latter people do not question the existence of the phenomena, any more than the existence of tidal phenomena was questioned before they were explained. There are still plenty of sailors to whom it is quite sufficient to know that high tide is at a certain fixed hour, which is indicated in the printed instructions issued to them; and to these people that knowledge, which is sufficient for them to bring their ship safely into port, is all that they want. Precisely in the same way there are minds which are quite satisfied with analogous instructions for the living of good lives; they merely wish to have those definitely put before them. There are, however, many other sailors, and they are the most modern type, who, if they do not refuse to utilise the phenomena of tides to their own advantage, nevertheless are not satisfied with mere written instructions, but desire to know upon what authority those instructions are based and the explanation of the phenomena themselves. The former type of mind is quite content to remain at anchor until the tide is known to be at the full; the latter desires to be able to make the calculation beforehand in order to provide for any possible contingency, so that the journey may be timed exactly and no time wasted. It is, of course, obviously true that the sailor would be well advised to take the former attitude rather than not reach his haven at all. But it is just as true that the more scientifically educated a sailor

is the keener will be his desire to understand the regulations which determine his methods. It is not exactly a question of praise or blame in either case ; it is a matter of the different mental attitudes of the various individuals. There was a stage in man's mental evolution, when it was perfectly sufficient for him to be told that the tide would rise and float his ship to the required destination at a given time ; to-day, no sailor who remained content with that information would be deemed proficient.

So it is with an increasing number in the moral, ethical, and religious sphere. They admit that the phenomena are undoubted, but they maintain that there must be reasonable and scientific explanation for them ; and therefore they desire to understand those explanations in order that they may be the better equipped for guiding their lives. And, in addition to this utilitarian desire for the knowledge, there is the necessity of satisfying the mental curiosity so characteristic of the modern mind. It is this curiosity which has been responsible for most human discoveries which render life so different to-day, and so much more intelligible than it once was. It is this same quality of mind which some forms of religion endeavour to suppress ; and just in so far as these efforts are successful in any given community so will there be a dearth of great thinkers found. If these people be told that explanations in these matters are no business of

man, man to-day replies that he feels them to be very much his business. He is chafed and irritated when continually driven back upon empiricism, although he recognises fully the advisability of adopting empirical methods in the absence of any known explanation. The modern mind, however, cannot regard empiricism as an end, but only as a temporary means pending the discovery of greater knowledge. The modern physician will certainly prescribe a drug which he knows will relieve the condition of his patient, whether he understands exactly how that drug acts or whether he does not. But if he has been scientifically trained he will never rest satisfied until his science discovers the explanation of the results observed. That is the problem for the modern mind. Everywhere is the desire to substitute explanation for assertion. We see this tendency in every kind of intellectual activity, and it is quite impossible to expect that the religious sphere will escape it.

It is no answer to be told that religious phenomena are quite outside the scope of scientific investigation and explanation because they are of a spiritual kind. We have no quarrel with those who take this attitude and who thus regard religious things, but we would point out, especially to teachers of religion, that by taking this position the outlook is made hopeless for the scientific mind. It is too often forgotten and too frequently ignored that the scientific mind of to-day is often

an extremely religious mind also, having as its strongest conviction the belief that these things are essentially part and parcel of the whole great scheme, and that they are inside that scheme and not outside it. The modern mind cannot but think that these religious experiences must have their laws and explanations just as have all other observable phenomena.

To such a mind the conception of a spiritual world outside and apart from universal law is unthinkable. That conception seems almost a negation and is extremely unsatisfying. And if the spiritual world has laws, as it must have, it is equally difficult to believe that these laws touch man at no other point, and have no relation to any other part of his personality. A spiritual world outside nature conveys nothing to such a mind, but simply appears a contradiction in terms. The whole tendency of modern scientific discovery is towards the unification, and not the multiplication, of laws. It therefore appears to the thoughtful man of to-day, that this spiritual religion, in which he is keenly interested, must exist under the same laws as does the rest of nature. That is, of course, a very different thing from saying that all those laws are known and understood; but it means this, that it is inadmissible to appeal to the existence of laws which are unknown until it be proved that those which are known have no application to the matter in question. The orthodox may hold up their hands

in pious horror as though they would say, "Who shall know the mind or the works of God!" The scientific mind with a far more real reverence replies in all humility, that inasmuch as man has already learned much of what was once regarded as inscrutable mystery, why should he not look forward with hope to the extension of his present limits of investigation and knowledge.

Our contention is, then, that the modern religious scientific mind desires to understand as well as to believe. That is its problem. And as the result of what has been learnt concerning other phenomena, the scientific mind inclines to the probability that religious phenomena will be found to have their explanation in the discovery of the operation of some great general laws upon some part of man's nature. Further, since the phenomena observed, whatever be their explanation, are obviously due to an altered mental attitude on the part of the person exhibiting them, it is obvious that the processes to be studied are mental processes. The processes of the mind are regulated by the same laws which control the rest of man's nature, though it may be quite true that their exact lines of working in the mental sphere are not quite as definitely known. To the scientific mind it seems that the Great Power which ordereth all things evidently works along definite lines, which are not eternally and unscrutably hidden from man's gaze, but which, on the other hand, are becoming clearer and clearer

every day. It seems to him, therefore, that the assumption that religious phenomena and truths differ in their very essence from other phenomena and truths is entirely unwarranted. Can there be found for them no place in the natural order of things? That is the problem. If there can, then these truths and phenomena will immediately assume a new and more intense interest in the minds of many. The effort to keep religious truth apart from human nature will only result in keeping man apart from them.

In order to present this problem as simply as possible, and to make its nature perfectly clear, let us take a very common concrete case, which the present writer is assured represents with considerable accuracy the way in which the problem comes home to men to-day.

A young man of to-day, at any age between eighteen and twenty-five years, born of sufficiently well-to-do parents, educated at a good first-class school, decides to enter one or other of the professions, and for that purpose goes up to one of our modern universities. By birth and family training he is a member of the ordinary religious denomination of his district, and is what is termed an 'orthodox believer.' His religious training has been upon the ordinary lines. He learnt his first prayer from his mother's lips, and as a child said it nightly at her feet, because he was taught that it was the right and proper way to end the day. This he did long before he attached any

particular meaning to the words he uttered, and he probably continued to say them long after he had ceased to attach any meaning to them. In very early days, he was introduced to Bible stories, especially those of the Old Testament, which appealed strongly to his childish imagination because of the stirring events they depicted and the heroes of whom they were told. In this way he received a mental picture of the creation of the world as related in the Book of Genesis. He learnt about all the interesting characters and events in that book. He learnt about the appearance of Adam and Eve in a garden, and believed them to be respectively the first man and the first woman to tread this earth. He learnt of the Fall of Man, the Curse, the Apple, the Serpent, the Flood, the Ark, and so forth. All these were to him real things or events, and were believed literally, for the simple reason that they were told to him by the people whose word he found by experience to be reliable in other matters pertaining to his child life. About the same time and from the same lips he learnt also a number of fairy tales, which also appealed to his mind and interested his early hours ; these, too, he believed implicitly for the same reason, and asked precisely the same questions about both.

Then he went to a Sunday or Sabbath School, where he was made to learn a catechism or other denominational formula. This did not interest him much ; it was too like an ordinary school

lesson, and, moreover, he did not in the least understand what it was about. Certain questions were set forth in it, and for some reason or other he had to learn the answers. Then perhaps a Creed was added, or a Prayer Book became part of his mental equipment, and he was taught a paragraph beginning with the words "I Believe." He did believe. Later on, he was initiated more particularly into the ordinances and ceremonies of his particular sect; and in some way or another, he got the impression that it was hardly respectable to belong to any other, and that members of other persuasions could hardly be expected to live sober, righteous, and godly lives.

Long before this, however, he had begun to pine for explanations of things told him, and in very early youth had asked his parents some searching questions, but found that answers were not forthcoming! It did not take him long to discover that as a rule he was simply put off, not answered; and frequently was actually told he must not ask such questions. He was made to feel that it was *wrong* to make these inquiries. No one had the moral courage to tell him that they did not know. So he began to keep his unsatisfied queries to himself, and the habit stuck to him for years. He had, of course, become quite familiar with the narrative of the life of Jesus of Nazareth as told in the New Testament; and had believed all he there read without question. Indeed, by the time he was admitted to

full membership of his particular Church, he had given up the habit of questioning about religious matters.

There were certain incidents, however, the impression of which remained fixed in his memory. Thus, a stupid nurse who once found him out in some childish fault had brought a painted text and hung it over the foot of his bed where he should see it every morning. It ran thus :—" Be sure your sin will find you out." The woman impressed upon him that this meant he would always be discovered when disobedient or otherwise at fault. *For that reason he must be obedient.* He believed her interpretation of the words for a long time, it never occurring to him that the nurse had no conception of the real meaning of the text. But suddenly one day it came into his mind with a flash that quite a number of his misdeeds, *and one most particularly*, had never been discovered, and did not appear to be likely to be so. With bated breath and careful words, he made inquiry among his juvenile companions, and as he had already begun to suspect, found that they too could tell of sins not found out and wrong which had escaped detection. The text was not true ! No thought of ignorance on the part of the interpreter came to him ; simply the overwhelming sensation of something precious gone out of life, a trust betrayed, a faith destroyed, an idea abandoned. Therefore, he concluded, those who had thus taught him must have been mistaken

in their belief in this matter, and if so were not to be regarded as trustworthy in others.

This set him thinking for himself, and he gradually came to see that educated people apparently believed in hardly any of the things which he had been taught to regard as religious truths. In this impression he was confirmed by what he heard and what he read. True his father did not speak of these things at all, and his mother seemed to believe in the way he had once believed. But he began to read books on religious topics, he went to lectures, and listened to speakers at corners and in the public parks, and gradually found himself in a state of utter mental bewilderment. He kept his thoughts to himself, however, or exchanged them only with a companion in similar predicament. The battle of the sects was forced upon his notice. Which of them, if any, had the truth?

It was at this stage that he went to the university. He studied some science and a new world of ideas was opened up to him. He learnt what geology and biology had to teach of the origin of species and the history of the earth. In a year or two he came to the conclusion that what he had been previously taught was utter rubbish and unworthy of attention. In the stress of professional studies and examinations he soon dismissed religion from his mind as a matter upon which there were many conflicting opinions, none of them of much importance.

This stage lasted for some time, but later still, as he got more knowledge and years, he came in touch with many men who had gone through very similar or almost identical experiences themselves, and who had come out of them with opinions certainly different from those of their youth, but nevertheless with deep convictions. He began then to realise that whether or not man's nature dated from his eating of a forbidden fruit, it was very evident that certain lines of conduct built up certain good characters and other lines built up bad ones. Observing the men of his own acquaintance he saw some morally dying, some living and growing. He saw men fighting temptations with more or less success and noted the results. Some appeared to have hardly any struggle at all to keep straight. Others struggled and went under. Some struggled and kept up. And in this way the moral, ethical, religious problem once more began to occupy his attention, this time as a serious question demanding study, and he earnestly sought some statement of religious truth which would bring him some intellectual satisfaction as well as some emotional contentment.

At this stage we find him to-day. That is his problem, the search for a Scientific Christianity. Unless he can find some sort of scientific basis upon which he may build his beliefs (which eventually will probably be peculiar to himself, for every man has his own religion if he thinks),

he will remain there for a few years until ultimately he will once more dismiss the consideration of these matters from his mind in the pressure of his professional life and work. He will live a straight and useful life because he finds it more satisfactory to himself to do so from many points of view, or for a combination of reasons which he does not trouble to analyse. But of definite religious belief he will have none ! In its place he will have a conviction, born of his general scientific training, that all things are pursuing an ordered path to some ultimate goal, and that on the whole the struggle for existence seems to make for progress in ethical ideas as it did in physical endowment, and that the means by which both are evolved are probably identical.

The man whose development we have thus depicted is common enough in all our cities where learning is abundant ; we have met him often, and he has told us that the above represents with much accuracy his own case. Understand clearly, if you would understand his problem, that he has no orthodox beliefs at all. He has no definite idea of God. Stock orthodox phrases such as ' the Grace of God,' ' the Holy Spirit,' man's ' Immortal Soul,' the ' Glorious Resurrection,' ' Heaven,' ' Hell,' are to his mind but words which literally convey no meaning at all. He simply does not understand what these words mean, or what people mean when they use them. One such man told the writer that he wrote to

ten ministers of religion of his acquaintance, and asked them if they would kindly tell him what *they* meant by the word 'Soul' which they used so casually. Not what 'Soul' was, mark you, but what they meant by their own use of the word. No two of them agreed on the point ; some meant one thing and some another ; two objected to being asked questions of that sort (think of it !), and one was honest enough to say that he did not know.

The point is this, that at one time this young man had no feeling that it was in the least essential that he should have any definite understanding of such terms, but now that stage has gone by, and he craves for more definite knowledge and some comprehension at least of the methods by which religious influences act. He wants to be sure that the better life is the result of a scientific process, and that it is not the result of some kind of trick into the mystery of which he must not inquire.

This attitude is the result of the growing strength of mind and intellect : it is natural and it is inevitable. It cannot therefore be wrong. Such minds cannot be satisfied with fossilised dogmas and methods, their mental possibilities are too great.

If this man be told, as he often is, that religion has nothing to do with his mind or his intellect, then, indeed, he is perfectly satisfied that it is not worth bothering himself about it. If it be

insisted, as it often is insisted, that in these matters he must remain *always* as a little child, he will say nothing, but turn quietly away with a sad consciousness that he is no longer mentally child-like, and he will continue to yearn in secret for a grown-up religion, a scientific Christianity. His attitude will be misunderstood by many even who love him, and will be ascribed to intellectual pride, whereas, as a matter of fact, he is in these things the humblest seeker after truth—the only really scientific attitude. In his ethical life he will probably be lonely unless he meets some kindred minds, or a woman's love great enough to tell her that his creed cannot be wrong whose life is in the right. He cannot believe that his search is doomed to failure beforehand, and still less that it is wrong to expect enlightenment. He is the product of his day and generation, and in every other sphere of his active life he is encouraged to endeavour to grasp more and more truth and wider aspects of it. Only in religious truth is it expected that the old ideas presented in the old way must suffice. It is, of course, quite futile to expect that they should. As O. W. Holmes—most eloquent of thinkers—said, "The saturation-point of each mind differs from that of every other." . . . "Do you know that every man has a religious belief peculiar to himself? Smith is always a Smithite. He takes in exactly Smith's-worth of knowledge, Smith's-worth of truth, of beauty, of divinity. And Brown has from time

immemorial been trying to burn him, to excommunicate him, to anonymous-article him, because he did not take in Brown's-worth of knowledge, truth, beauty, divinity. *He cannot do it, any more than a pint pot can hold a quart, or a quart pot be filled by a pint.* Iron is essentially the same everywhere and always ; but the sulphate of iron is never the same as the carbonate of iron. Truth is invariable ; but the *Smithate* of truth must always differ from the *Brownate* of truth."

Unfortunately the pint-minds seldom realise the capacity of the quarts, and the latter are too often left less than half-filled.

There is still one answer which is sometimes given, concerning which we must say a word. It may be objected to all that we have said, that however true these statements may have been some years ago, they no longer apply to the situation as it stands to-day ; that as a matter of fact, even orthodox teachers and congregations no longer hold the same truths in the same way, and that those who do so are in the minority. It may be urged that the modern spiritual teacher realises to the full all the difficulties mentioned, and has deep sympathy with the mind of such a man as we have described. This objection or answer may possibly be true to some extent, but we would point out that sympathy in this matter, though welcome, is by no means all that is required. Where the modern teacher so far fails is that he has not yet succeeded in clothing the

old truths in the new guise which he sometimes says he has adopted. He has not yet been able to satisfy the modern mind on these topics as his predecessors did our forefathers. The preacher or teacher who can do this will promptly find himself with an earnest following of all the best minds within his sphere, and he is badly needed. The nearest approach to him was made by the late beloved Henry Drummond, whose methods of religious teaching appealed to thousands of educated minds which were at that time absolutely untouched by any other religious teacher. The really extraordinary thing about Drummond's work was the number of intelligent men whom he was able to deeply interest where others failed entirely. To the present writer, who knew him well, it has always seemed that Drummond's was one of the greatest of lives, and that his teaching foreshadowed the possibility of a Scientific Christianity. Underlying it all was the great truth, which is felt by so many to-day, namely, that the spiritual world must inevitably be a matter of natural law, and that, therefore, what we term spiritual experience must be governed by the laws which rule the rest of the universe, including man's mind.

The position which we are about to develop, however, goes somewhat further than this, inasmuch as it endeavours to show that the laws in accordance with which religious phenomena takes place are the same laws which are found to

apply to other parts of man. Not analogous laws—be it noted—but identical laws. An analogy is an apparent likeness between things which are essentially different, a likeness between things in some circumstances or effects when the things themselves are otherwise entirely distinct. Analogy is sometimes confused with similarity, a serious error against which we must be carefully on our guard. Similarity denotes general resemblance; analogy implies general difference. Analogy, therefore, is useful in argument only for the purpose of illustration. It should be never used as an actual explanation except in the same way as an illustration explains. Analogy can never be actual proof, but it is true that it may possibly be the only kind of proof available. In such a case the most that can be demonstrated is probability. It is interesting to note that the use of analogy has been adopted by all the great ethical teachers of the world. Christ himself frequently used analogies to explain his words. In Drummond's writings analogies occur frequently, as they did in his spoken addresses. But in matters requiring scientific proof it is well recognised, and must ever be remembered, that an argument based entirely upon an analogy can never be really satisfactory, because reason of this kind is apt to lead into very great error. Thus, if the zoologist were to argue from analogy in framing a classification of animals, we should find him placing whales in the same category as

fish ; since the gills of fishes are analogous to the lungs of mammals ; and in the same way he would regard a bat as a bird, since the wings of both are analogous. Both these conclusions would be wrong ; and therefore analogy is misleading when utilised as proof. Bats are mammals, as are whales. In no sphere of argument is this caution more necessary and important than in ethical and religious matters.

Our effort, then, in the following pages will be to endeavour in the first place to come to some kind of understanding as to the various component parts which make up the nature of a human being, and amongst them we shall include that which is commonly termed his spiritual nature. We shall endeavour, as far as possible in the space at our disposal, to inquire into the origin and source of his many and varied characteristics, and then shall proceed to try and discover upon what general principles these are developed so as to make a human personality. Should we find as the result of our investigation nothing which points to any uniform principle in operation, it will then obviously be impossible to explain our problem. If, on the other hand, our search reveals to us the existence of laws whose operation in some parts of man's nature are well known, and the working of which is in part understood, it may be possible to apply these same identical laws to still other parts of that nature, in the hope that such application may assist in the solution desired.

We start frankly from the standpoint of regarding the spiritual world as something which undeniably exists, and which is within, and not outside, natural law. No other standpoint is conceivable to the mind which has been produced upon the lines which we have indicated, and no other standpoint therefore falls within the scope of our discussion. The mental attitude of to-day is that religious phenomena are not essentially different from other mental processes, nor even unassociated with physical conditions; hence they should be capable of some sort of explanation. Those who regard the spiritual life as something absolutely distinct from man's humanity are not interested in the problem, nor will they be interested in its discussion. Those who regard the spiritual life as falling within the natural sphere can conceive of no divinity except such as is possible for humanity.

The yearning for some explanation of these matters is but an echo of the universal cry for greater knowledge and wider aspects of truth in every possible department of life. It is only the more ignorant of our population that can now be dealt with by mere authority. The day of blind acceptance—even of truths—is fast departing, and to the great majority of men the appeal must come from the standpoint of reason and intellect; and hence it is that any religious movement which has nothing to offer but dogma and unexplained phenomena, no matter how true

the dogma or how obvious the phenomena, will appeal only to the untrained mind or to the intensely emotional nature. Such a religious system can only retain its hold either by keeping its adherents ignorant, or by forbidding them to apply their intellects to its teaching. For good or ill teaching by authority has had its day and the religion of the future, if it is to be an effective and living power amongst men, must, we are convinced, present itself to the mass of mankind in the form of a Scientific Christianity.

CHAPTER II

THE MAKING OF A MAN

THE characteristics which go to the making up of any one individual are many and varied, and the sum total of them constitutes his or her individuality. Judged by any given standard of physical, intellectual, or ethical value, individuals are found to vary immensely. There are good, bad, and indifferent specimens in each category ; but whatever be the result in any individual case, it is obviously the effect of all the forces or influences which have been brought to bear upon his particular capacities. An individual is the resultant of the play upon one man's-worth of human material of all the forces which have acted, or are acting, upon that kind and amount of material. All individuals of the same species have certain traits in common, but no two are exactly alike in all respects, even though they are placed under apparently similar surroundings ; and hence it follows that no one person is quite like any other in capacity of development. No two children born of the same parents are exactly alike

in all characteristics.¹ Even if they be extremely alike at their birth, they very soon begin to exhibit differences in various directions as growth ensues. And if this be true of their so-called physical features, it is still more obviously true of their mental characteristics.² Most of all, perhaps, will they be found to differ in what we designate 'spiritual' things.

It is clear, therefore, that underlying any explanation of the Problem must be the question of the nature and amount of the material which is available for the making of a character. In other words, we must ask first of all another question, namely, What are the elements concerned in the Making of a Man? That having been made clear, but not until then, we may proceed to the next step, namely, the endeavour to ascertain which of these elements are concerned in that particular portion of a man which enters into the Problem under consideration. Finally, only then shall we be in a position to attempt any explanations of the processes at work.

We therefore find ourselves confronted with the necessity of some little physiological and biological study which, if we are to gain any real

¹ The case of identical twins need not be considered here, it does not affect our present argument.

² The terms 'physical,' 'mental,' 'spiritual' are here used in their ordinary colloquial sense. It must not, however, be assumed that any of them are other than physical in any exact scientific sense.

appreciation of this subject at all, must not be shirked. As we go on, it will become more and more evident that *we are engaged upon a biological task*, and we shall in all probability arrive at the conclusion that herein lies the explanation of the failure of modern religious methods. The Churches have not yet realised that their problem is a biological one. In our discussion we shall endeavour to avoid as far as possible the use of technical scientific terms, and where these are absolutely unavoidable we shall explain clearly the sense in which they are here used. But the foundations must be laid, and laid firmly, before there is any attempt to build a superstructure, and only those who understand the laying of the foundations are in a position to judge of the security of the building. Most of the facts to be stated will doubtless be perfectly familiar to many, but they must be stated in their order, so that we may proceed step by step. We shall omit all unnecessary detail, and introduce nothing but the essential points. Those points, however, must be mastered in order to understand what follows, and we may therefore at once turn our attention to grasping a brief outline of the physiology of the making of a man.

It will perhaps be all the better if we take these facts from an outside source, so that there may be no question of their accuracy, and no suspicion of their having been put together in this form

for any purpose in the mind of the present writer. To this end we quote the following paragraphs from a recent work by one of the most brilliant of modern scientific writers and thinkers, and again beg our readers to give them thorough attention¹:—

“ The material basis of all known life is the cell. The cell is a mass, usually very minute, of a jelly-like substance known as protoplasm. The lowest plants and animals are single cells. Higher living beings are compounded of two or more—it may be billions of—cells, most of which are adherent together. Cells multiply by self-division, the mother-cell distributing itself between the daughter-cells. The daughter-cells in the cases of unicellular organisms separate, but in higher types remain together.

“ A man, then, for example, is an organised colony or community, a family, a tribe, or race of cells, all of which have descended from a common cell-ancestor, the fertilised ovum or egg.

“ Speaking in general terms, the descendants of a *unicellular organism* closely resemble their ancestor ; each individual cell is able to continue the species by self-division, and each performs all the functions necessary to existence, such as the procuring of food.

“ But the descendants of the fertilised ovum,

¹ ‘The Principles of Heredity,’ by Dr Archdall Reid.
London : Chapman & Hall.

though they remain together, indeed because they remain together, break up into many types. Thus in a man there are skin-cells, bone-cells, nerve-cells, various kinds of gland-cells, and others.

"The members of the community are specialised in form and function. Each performs some particular duty. *None* are fitted to perform all the functions of life, and none therefore can maintain a separate existence. Thus a skin-cell or a muscle-cell parted from the rest of the community quickly perishes. *Even the duty of continuing the race is delegated to a particular set of cells, the germ-cells, which do not otherwise share in the labours of the community.*

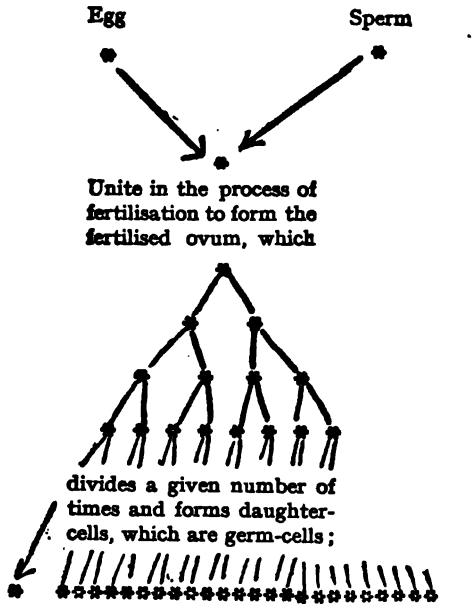
"Germ-cells derived from a female body (e.g. a woman) are termed ova; whereas those derived from a male body are termed sperms. *They* are not male and female; only the bodies, the cell-communities, in which they lie, are male and female.

"The process of fertilisation takes place when a sperm from a male body unites with an ovum from a female body. The *single cell* thus formed is termed the *fertilised ovum*. The fertilised ovum, dividing and redividing many times, builds up by means of its descendants thus arising a new cell-community, a new 'organism,' a new body, a new 'individual,' a human being for instance.

"The multicellular individual, then, consists of various kinds of cells which perform different functions, each kind its own special function.

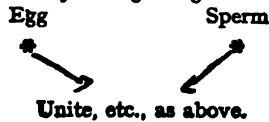
Some of these cells are germ-cells ; the rest are body-cells or 'somatic cells.' The latter, which are usually much the more numerous, provide the former with shelter and nutrition, but these body-cells in the highest animals never give rise to germ-cells. These are produced only from pre-existent germ-cells, each generation being *thus directly continuous with the one preceding it.* In fact, when the fertilised ovum begins to divide into daughter-cells, the first descendants are the germ-cells of the new individual which has yet to be formed. This individual is formed by *one*, and *one only*, of these first-formed germ-cells—the rest of the germ-cells being stored in the body as it grows, or giving rise to structures with which we are not here concerned."

This conception of the 'continuity of the germ-plasm' is of quite recent origin, depending as it does upon modern embryological research. It lies at the very basis of the science of heredity. In fact, heredity is nothing more than the relationship which exists between successive generations. The idea is a fundamental one in any attempt to understand the formation of character ; and in order to make it as clear as possible, we may state the facts in the form of a diagram, which will probably enable the reader to grasp this conception more readily. Thus :—



one of which, and one only, goes on dividing to form the body-cells, and so produces the new individual, which as it grows includes in itself those cells (germ-cells) previously formed.

the rest are germ-cells, which subsequently form the eggs and sperms of the new individual, *i.e.* they are the germ-cells of the next generation. They cannot develop independently, but when they unite with the egg or sperm of another individual, a new fertilised ovum is formed and the cycle begins again.



To resume Dr Archdall Reid's account :—

"In each sperm and ovum is a minute dot, *the nucleus*. The essential feature of the union of sperm and ovum is now believed to be the union, the intimate mixture, of their nuclei, so that the two nuclei become one. Under very high powers of the microscope there may be seen within the nucleus specks and threads of a substance known as *chromatin*. When the fertilised ovum and its descendent cells divide into daughter-cells, the chromatin, which grows with the cells, displays remarkable movements, and is distributed apparently with great quantitative equality between the daughters. Now, this chromatin, contained in the germ-cells, is believed, with good reason, to be 'the germ-plasm,' 'the bearer of heredity,' the substance which contains the hereditary tendencies, and which therefore *determines the kind of individuals* that shall arise from the germ-cells. A man differs greatly from an elephant because the germ-plasms of the two species are very different. He differs yet more from a plant because the germ-plasms are yet more different. One man resembles another because all human germ-plasm is much alike, but every man differs from every other because the germ-plasm contained in no two germ-cells is exactly similar. One very important point should be noted ; since the offspring of the same parents invariably differ more or less amongst themselves, it follows that, though the quantitative division of the

chromatin is apparently exact, the qualitative division cannot be seen. The daughter-cells may receive similar quantities, but they do not receive exactly similar *kinds* of germ-plasm.

"The whole of the child, therefore, is derived from a single cell, the fertilised ovum, which in turn was derived wholly from two germ-cells, one from each parent, and these again were derived by single lines of descent from the fertilised ovum whence the parent sprang. Never between fertilised ovum and fertilised ovum is there any conjugation. *The other cells of the parent, therefore, as far as we know, contribute no living elements to the child, they merely provide temporary shelter and nutrition.* The child does not resemble his parents because his several parts are derived from similar parts of the parents, his head from his parents' head, his hand from his parents' hands, and so forth : he resembles them only because the germ-plasm which directed his development is a split-off portion of the germ-plasm which directed the development of the parent."

Such traits, therefore, as are carried by the germ-plasm are inherited from one generation to another, and are utterly independent of the nature of the body cells of the parent.

"The germ-cells are, in a real sense, *immortal*. Saving accidents, they divide and divide again perpetually, and there is no dead body. In like manner the germ-plasm is potentially immortal. It grows and separates, but does not die unless

killed or starved. Each fertilised ovum builds with *mortal* cells a temporary dwelling, the body, around its potentially immortal descendants, the germ-cells, which hand on to succeeding generations their all-important trust, the germ-plasm. Thus there is 'continuity of the germ-plasm.'"

As before stated, it is this continuity of actual matter, germ-plasm, which alone makes possible the phenomenon of heredity.

Thus we see that the line of ancestry and heredity is through the germ-cells alone, and never through the embryo or individual. The latter never produces germ-cells; they arise from former germ-cells; the individual merely preserves and nourishes them until once more required to form the next generation. It is now easy to understand why the main characters of a race, or the traits of a family, appear very much alike. They come from the same actual matter, a common germ-plasm. The individual really inherits nothing from his parents; he merely receives in his turn the heritage which was theirs as well. To many this will be a new thought; it was new to science itself only a few years ago. But it is fundamental. No true conception of the possibilities of character can be formed until this idea is firmly grasped.¹

From this brief physiological study we are able

¹ The author would appeal to his readers to make themselves perfectly familiar with the facts stated above before reading the further argument.

to deduce our first conclusion as to the making of a man, which may be stated as follows :—

(1) **Man is composed partly of characteristics, which are derived from pre-existing germ-cells, and over the possession of which he has no control whatsoever. Be they good, bad, or indifferent, these characteristics are his from his ancestry in virtue of his inheritance. The possession of these characteristics is to him a matter of neither blame nor praise, but of necessity. They are inevitable.**

The individual, then, starts his life with a certain number of inborn, or innate, or germinal characteristics, and no more. Most of these are in the form of *tendencies*. Some are actually developed by the time of birth, but what he has received chiefly in virtue of his inheritance are a number of tendencies which will later manifest their presence by his growth in various directions. It is upon this basis that he has to develop himself, and upon no other. These inherited tendencies represent the sum total of his potentialities. Nothing of a new nature can be added to them. All that he can do, or that can be done for him, is so to act upon these tendencies or potentialities as to develop the good to the best, and eliminate the bad if possible. It is under the constant direction of these tendencies that the community of body-cells gradually takes shape as an individual, a personality. The most that any system of training, of education, of politics, of

religion, can do for them is the giving or withholding of opportunity to develop. Once that fact be thoroughly grasped, an immense flood of light is thrown upon the whole question.

Three main factors acting from the external world awaken all these tendencies into activity and cause them to develop. These three factors are :—

- (a) Nourishment or food.
- (b) Use or exercise.
- (c) Injury.

Thus, in the case of the human being, we see that up to the time of birth the first factor, nourishment, predominates practically to the exclusion of the others. The mere supply of an adequate quantity and quality of food is a sufficient stimulus to the tendencies in the body-cells to cause them to develop into skin, bone, blood, nerve, gland, and so forth. The embryo grows simply under the stimulus of nourishment supplied.

“Subsequently some of his structures develop under this stimulus; for example, his hair, his teeth, his external ears, and his organs of reproduction. But as regards others of his structures, though nourishment continues to supply the *materials* for growth, it ceases to supply the *stimulus*. Thus, no matter how well the child is fed, the muscles of his limbs do not develop unless they are used. It is a noticeable fact that structures—and those structures only—which grow

under the influence of use tend to atrophy under the influence of disuse."

"If the individual be injured as by a cut, the wound supplies the stimulus for the growth which occurs during the process of healing," resulting in the formation of a scar. It is quite unnecessary to multiply examples of these laws; they are exactly the same for all parts of a human being, and apply equally to the brain as to a muscle, a mental scar as well as a muscular scar.

We see now how it is that members of the same family and ancestry come to vary so much as individuals. One part of the explanation at least is apparent. Starting with the same potentialities, they receive different kinds and amounts of stimuli, under the influence of which they develop in different directions and in varying degrees; and thus we arrive at a second conclusion as to the making of a man, which may be stated thus:—

(2) Certain characteristics are acquired by each individual for himself in response to particular forces or stimuli acting from without.

The first group of characteristics—the inborn ones—develop in response to the stimulus of nourishment alone; the second group of characteristics—the acquired ones—develop only when to the stimulus of nourishment there is added that of use or injury, or both.

There is still another group of characteristics, a group which, strictly speaking, is included in

the first, the innate characters, but which it is convenient for purposes of analysis and description to regard separately. They are germinal in origin, but not inherited nor ancestral. These are the characteristics which arise in an individual for the first time in his line or family. They take their origin in the germ-cell from which he was developed, but they were not inherited ; they are something new, something appearing now for the first time. Such new traits are termed 'Variations,' and it is by means of these that evolution is possible. What causes germ-plasm to give rise to new variations is a much-debated question which need not be discussed here ; it is sufficient for our purpose to recognise this third group of characters. Thus, if an individual born of perfectly normal average parents develops six fingers instead of five, or a marked tendency to proficiency in mathematics, or an extraordinary faculty of memory, or a special power of resisting infection or temptation, these tendencies appearing for the first time in his family, and innately, they are termed variations. In so far as these tendencies are germinal in origin, they may be handed on to the next generation by the continuity of the germ-plasm. They arise as variations, and are thenceforth inherited. They may, of course, be advantageous or otherwise in their nature.

Thus we arrive at a third conclusion as to the making of a man, namely :—

(3) There may be certain characteristics appearing for the first time in that individual, not inherited but taking their origin in the germ-cell, such characteristics being termed **Variations**.

The origin of all the various traits, characteristics, features, tendencies, qualities, of whatever kind—mental, moral, or physical—which go to the making of a man, may therefore be summarised thus :—

A MAN IS MADE UP OF	{	A. Inborn Characters
		<i>a.</i> Inherited (growing under the stimulus of nutriment).
		<i>b.</i> Variations.
		B. Acquired Characters, obtained
		<i>a.</i> By nutrition.
		<i>b.</i> By use.
		<i>c.</i> By injury.

The varying proportions of these characters account for the differences in individuals, and the actual nature of them constitutes the whole of the possibilities for any one man.

Let the reader now put down this book and think for a few moments. Let him take a mental review of all the different characteristics which go to the formation of any personality with which he may be sufficiently familiar—himself, for example. If he will take a pencil and a sheet of paper and rule the latter into three columns, headed respectively 'Inherited,' 'Acquired,' and

'Variations,' he will find that each characteristic as it presents itself to his mind can be placed in one or other of these columns. The better he has understood the preceding pages the more accurate will his arrangement be. There may be some little difficulty in deciding into which column certain traits should be put, but that they come under one or other heading is perfectly obvious. It is a simple way of illustrating an analysis of a character, and it will be found absolutely impossible to think of any *known* characteristic which does not fall into one or other of these three categories.

In order to make this perfectly clear, we may ourselves select a description of an individual, a description not drawn up for any such analysis at all, but simply to represent as perfectly as possible *the whole man*. We may then make our own analysis on the lines suggested, and observe how far it conforms to the conclusions already reached. Any biographical sketch by a literary hand would serve the purpose. We may take, for example, the following extracts from a well-known biography of Alexander Pope the poet.¹

"The father of Alexander Pope was a London merchant, a devout Catholic, and not improbably a convert to *Catholicism*. . . . In after life the poet made some progress in acquiring the *art of*

¹ From Leslie Stephen's 'English Men of Letters.' Edited by John Morley.

painting, . . . the *precocious* child had already given some indications of *artistic taste*. . . . But he was the only child of his mother, and his parents concentrated upon him an affection *which he returned* with touching ardour and persistence. . . . He inherited *headaches* from his mother, and a *crooked figure* from his father. The family tradition represents him as a *sweet-tempered* child, and says that he was called the 'little nightingale' from the beauty of his *voice*. As the *sickly*, *solitary*, and *precocious* infant of elderly parents, we may guess that he was not a little *spoilt*, if only in the technical sense. . . . Pope's character was affected in many ways by the fact of his belonging to a sect thus harassed and restrained. . . . Pope learnt to love *toleration*, he was not untouched by the more *demoralising influences* of a life passed in an atmosphere of incessant plotting and evasion. . . . The spirit of the *rickety lad* might have been broken by the rough training of Eton or Westminster in those days; as, on the other hand, he might have profited by acquiring a livelier perception of that *virtue of fair-play*. . . . As it was, Pope was condemned to a desultory education. He picked up some rudiments of learning from the family priest. . . . Like other lads of *genius*. . . . He read so eagerly that his *feeble constitution* threatened to break down. . . . He *learnt languages*. . . . acquired a wide knowledge of English poetry. . . . Pope's *ambition* was directed into the same channel

by his *innate propensities*, and by the accidents of his *position*. . . . The *sickly son* of the Popish tradesman. . . . *Physically contemptible*, politically *ostracised*. . . . Singular triumph of pure *intellect* over external disadvantages, and the still more depressing influences of incessant *physical suffering*. . . . His *religion* helped him to emerge into *fame*. . . . Seems to have paid to religious duties just as much *attention* as would satisfy his parents. . . . We might speak of the absurd *affectation* displayed in the letters, were it not that such affectation is the most genuine nature in a *clever boy*. . . . He was forced to be *grave* and *godly*, instead of *drunk* and *scandalous*. . . . Pope could be at times *grossly indecent* . . . some of his *writings* are stained by pruriency and downright *obscenity*. . . . Pope had become too conscious of his own *importance* . . . was *weak* and *insincere* enough . . . claims the *virtue* of *propriety* . . . acquiring the peculiar qualities of *style* . . . *skill in polishing* these rather rusty sayings . . . showed the power of coining aphorisms . . . phrases which are not only elliptical, but *slovenly*, a *blemish*. . . . His *feelings* make him *eloquent*. . . . There is a taint of something *unwholesome* and *effeminate*. . . . An intensely *sensitive nature*. . . . Pope's *irritable vanity* . . . morbidly *sensitive* to all attacks, and especially to attacks upon *his person*. The *hatred* thus kindled was never quenched. . . . Pope was *jealous*, *spiteful*, and *credulous*. . . . Pope's

suspensions are a proof that in this case he was almost subject to the *illusion* characteristic of *actual insanity*. . . . Pope would seem to have been almost in the initial stage of *mental disease* a state of mind so *morbid*. . . . The *audacity* which could lead a man so ill qualified in point of *classical acquirements*. . . . Pope was too *sickly* and too *serious* to indulge long in youthful fopperies. . . . He had no fund of *high spirits*. . . . Pope's *constitutional irritability*. A man of such brilliant *wit*. . . . His unsocial *habits*. . . . *Ill-health*. . . . He was so *weak* as to be unable to rise to dress himself . . . so *sensitive to cold*, one of his *sides was contracted* . . . his *legs were so slender* . . . long *legs and arms*. . . . His *face* was not displeasing . . . the *thin, drawn features* wear the *expression of habitual pain* . . . the vivid and penetrating *eye*. . . . A *gallant spirit* which got so much work out of this carcase, and kept it going, in spite of all its *feebleness*, for fifty-six years. . . . A *kind master* . . . generally *abstemious* . . . the suffering in a great part was foolish *self-torture* . . . the victim of *moral as well as physical diseases*."

In the foregoing extracts there are mentioned a large number of characteristics, which we have italicised; and if these be analysed in the manner suggested, we get a result somewhat of the following nature:—

ANALYSIS OF THE TRAITS OF ALEXANDER POPE

INBORN CHARACTERS (including variations).	ACQUIRED CHARACTERS.
<p>The possession of legs, arms, ribs, face, eyes, larynx, brain, and other organs not mentioned, all of which take their origin in germ-cells.</p> <p>The capacity of acquiring mental attributes. The special capacity is a variation.</p> <p>A certain quality of tissues manifested in constitution.</p> <p>A number of tendencies, physical and moral.</p>	<p>The special size, shape, qualities, etc., which arise in these organs in response to stimuli, viz. :—</p> <p>Slenderness and length. Contracted side. Facial expression. Headaches. Crooked figure. Beautiful voice. Religion. Painting. Artistic taste. Languages. Literature. Sweet-temper. Sickness. Irritability. Morbidly sensitive. Physical disease. Moral Disease. Effects of solitude and sect. Effects of demoralising influences. Ambition. Affectation. Kindness. Effects of suffering. Gravity. Godliness. Indecency. Obscenity. Pruriency. Consciousness of importance. Vanity. Insincerity. Style. Feelings. Eloquence. Spite. Credulity. Hatred. Jealousy. Abstinence.</p>

It is, of course, obvious that what are here termed acquirements are really nothing more than modifications in one or other direction of

inborn traits, chiefly as the result of the stimuli of use and injury, though others also could be mentioned. Both kinds really are founded upon the nature of the germ-plasm, and the distinction is more one of convenience than of actual difference in nature. The difference is chiefly in the stimuli. The actual characteristics are none of them innate ; all that is innate is the tendency to develop in response to stimuli. So long as we understand clearly what is implied, there is no harm in retaining the use of these terms which have long passed into current use. With different meanings attached to the terms 'inborn' and 'acquired,' the tabulated list of characteristics would vary accordingly. It may further be noted that it is frequently difficult to distinguish characteristics which owe their growth entirely to nourishment from those which are indebted for growth partly to use or exercise ; but as a general rule it will be found that the latter—the use-acquirements—tend to atrophy, and disappear if they be not exercised. For this reason it is increasingly difficult to make acquirements in new directions with increasing age ; the capacities not having been exercised, have atrophied. Exclusive attention to one branch of knowledge is often accompanied by inability to appreciate some other branch.

The reader may easily make for himself a further analysis of the relation of the several characteristics to their respective stimuli by rearranging

these in the table already given under the following headings, thus :—

**CHARACTERISTICS DEVELOPED AS THE
RESULT OF**

NUTRITION.	USE OR DISUSE.	INJURY.
The condition of the infant at birth.	State of development of bones, muscles, after birth.	Disease, physical and moral.
Hair, teeth, ears, even after birth.		
Capacities for acquiring.	Artistic taste. Style. Expression. Religion.	Spite. Hatred, etc.
Etc.	Etc.	Etc.

We arrive, then, at the ultimate conclusion as to the Making of a Man—that all the characteristics which it is possible for an individual *under any circumstances* to possess are traceable ultimately to the action which takes place between his surroundings and his inherited tendencies or potentialities. There is no conceivable source of origin other than this. The surroundings, the sum total of which make up environment, may be physical, mental, moral, religious, or the opposite of these, but they can act only upon what is present in the person. Nothing can be added except in the environment. Nothing can be taken away, if there ; its growth can only be encouraged

or retarded by suitable means. "Education is nothing more than the giving or withholding of opportunity." It does not follow, by any means, that each and every kind of trait can be equally developed; indeed, as we shall see presently, such is far from being the case; but it does follow that it is perfectly hopeless to expect to succeed in making a silk purse out of a sow's ear. The very most that can be done with that organ is to give it the fullest opportunity of so developing that it may perform in the best manner possible the functions for which it was intended.

CHAPTER III

THE MAKING OF A MAN (*continued*)

WE have now seen what possibilities there are in the Making of a Man, in so far as the material to be worked upon is concerned. But up to this point our results are all in the direction of the *kind* of material used. Some is evidently ancestral, some may be appearing for the first time, and some is obviously acquired. So much for the quality of it. It is necessary, however, to make not only a qualitative estimate of this material, but also a quantitative estimate as far as possible, in order to determine the proportionate relationship of the one to the other. To a great extent our final opinion as to what can be done in the way of building up a character will depend upon this quantitative estimate. How much is inherited, and therefore unavoidable? How much is acquired, and therefore within the reach of effort? These questions are pressing; they come very near the heart of the matter. Which of the groups of characteristics predominate? Is heredity the all-important factor, or are the inherited traits overshadowed by the acquirements made by the individual, subsequently.

in response to the stimuli of his environment? For how much does variation count? These questions have only to be stated in order that their great significance may be realised, and they must be considered before we are in a position to thoroughly understand the formation of character.

A reference to the character-analysis already made, will make the answer to these questions partly clear at once. It will be observed that in the first column, under the heading 'Inborn Characters' (which are therefore inherited or variations) come a number of characteristics which are almost exclusively what are usually termed 'physical characteristics.' Thus, in this column appear such characters of a man as legs, arms, eyes, a brain, and so forth, together with their inherent and inherited capacity for acquiring attributes. On the other hand, in the second column under the heading 'Acquired Characters,' appear a number of traits which are commonly spoken of as 'mental' 'or moral.' Thus, here appear religion, ambition, godliness, obscenity, artistic taste, and so on. The separation of physical and moral is artificial, but is in accordance with popular language, and is convenient for purposes of description.

It is at once obvious, therefore, that it is to the second group of characteristics—the acquired traits, that we must chiefly look for the results of external influences acting upon an individual,

be those influences physical, moral, mental, good or bad. In the so-called physical sphere the possibilities are extremely limited in the life-time of any one individual. Great advances in that part of nature are the result of the slow selection of advantageous variations, either naturally or artificially. For any given individual the limits of growth or improvement in his physical powers can be defined almost exactly. Thus, if he be an American, no matter what his environment be as regards the stimuli of nourishment or exercise, we know that his height, which is mainly influenced by the growth in length of the bones of the legs, will not be more than or less than certain well-known figures. The average can be fixed with exactitude. Again, it can be foretold that an athlete who is an expert at running may be able to train himself (*i.e.* acquire the capacity) to run one hundred yards in ten seconds, but in not more than one fifth of a second less—that exact mathematical figure representing the limit of the making of a man in that particular direction. In the same way all ‘records’ in physical contests represent almost the limit of human performance, and though they may be ‘broken,’ every one knows that any newly established physical ‘record’ is an infinitesimal advance upon the last, and often due to circumstances other than the physical acquirements of the performer. One need not be a prophet in order to foretell that no man in our generation will ever run one hundred yards

in eight seconds or jump a distance of thirty feet on flat ground. The limits of the growth of bones and muscles in the human frame, and of the performance of their respective functions in response to the stimuli of nutrition and subsequently of exercise, are *strictly defined* and extremely inelastic.

But turn the attention to the mind and its acquirements, and note well the striking contrast. Consider the acquirements possible for a human brain—truly here a very different state of affairs exists. Here are to be found no such rigid limits, no hard and fast lines. Here, instead of fixity, there is extreme ductility and elasticity; so much so, indeed, that it is perfectly impossible to foretell just how expert a mathematician, or how eloquent an orator, a man may become; or how good and moral a life a man may live. In fact, the more he develops in such directions as these the more he seems able to develop. The capacity for acquiring in such cases appears actually to increase with the acquisition! The one factor which would seem to set a limit in some of these spheres is the age of the individual, the capacity for acquirement being infinitely greater in youth than afterwards. But here again there is a difference to be observed. It is not so much or alone the power of acquiring that is lost or impaired by advancing age. It is rather *the power of changing the kind of acquirement or its direction*. No better example of this could

be given than that recorded by the immortal Darwin in his autobiographical "Recollections of the Development of my Mind and Character," from which the following is quoted :—¹

"I have said that in one respect my mind has changed during the last twenty or thirty years. Up to the age of thirty, or beyond it, *poetry* of many kinds, such as the works of Milton, Gray, Byron, Wordsworth, Coleridge, and Shelley, gave me great pleasure, and even as a schoolboy I took intense delight in Shakespeare, especially in the historical plays. I have also said that formerly pictures gave me a considerable and *music* very great delight. But now for many years I cannot endure to read a line of poetry: I have tried lately to read Shakespeare, and found it so intolerably dull that it nauseated me. I have also almost *lost* my taste for pictures or music. . . . This curious and lamentable loss of the higher æsthetic tastes is all the odder, as books on history, biographies, and travels (independently of any scientific facts they may contain), and essays on all sorts of subjects interest me as much as ever they did. My mind seems to have become a kind of machine for grinding general laws out of large collections of facts, but why this should have caused the atrophy of that part of the brain alone, on which the higher tastes depend, I cannot conceive . . . if I had to live my life again, I would

¹ 'Life and Letters of Charles Darwin.' Edited by Francis Darwin. Vol. i. p. 100 *et seq.*

have made a rule to read some poetry and listen to some music at least once every week ; for perhaps the parts of my brain now atrophied would thus have been kept active through use. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature."

It has been already stated on a previous page that the characteristics which depend upon use and exercise for their development are usually those which tend to atrophy by disuse, and, as the above passage clearly shows, this was recognised by Darwin when too late to prevent it in his own case.

In the same way an astronomer may be able to acquire more and more astronomical truth, and see deeper into that truth as he gets older ; but it will be found that he becomes much less able to acquire other lines of truth ; for example, he will be far less able to acquire culture in a new language, or in music. He may be a better and better biologist or astronomer the older he gets, but in other directions his capacity for acquiring becomes less and less.

The older a man gets the more able he may be to approach nearer and nearer to his ideal of the greatest life—in fact in some directions it is distinctly easier for him to do so ; but he is less able to acquire new *methods*, even to that same end. It has been said that few of us ever change our

opinions on any important subject after the age of forty-five. Indeed, it is this very fact that to a great extent lies at the bottom of the present-day difficulty in accepting religious truths. Dr Archdall Reid forcibly puts it thus :—¹

“ It is the misfortune of all religions that their authoritative exponents are, with few exceptions, old men, comparatively incapable of mental acquisition, and therefore of change. Consequently during times of intellectual advance all religions tend to succumb to a disease of senility. The methods of exclusive intellectual training adopted by orthodox sects help in this, and are intended to keep their adherents within the fold. Amongst barbarous and illiterate peoples such methods may be very effective. They are disastrous to the sect when applied to more civilised communities. ‘ Infidelity ’ is comparatively rare amongst heretics, as in Great Britain and America. It is now almost the normal condition of educated men in the majority of orthodox communities. Where heretics and orthodox Christians are mingled together, the rate of increase of the former is usually the greater. *The quite fatal weakness of extreme orthodoxy in these stirring days is the low grade of intelligence it develops or permits.* Intelligent men tend to desert it, not necessarily because its doctrines are demonstrably untrue, but because they cannot breathe the mental

¹ ‘ Principles of Heredity,’ (2nd Edition). Footnote, p. 313.

atmosphere which its authorities with characteristic crassness insist on creating."

All this proves that the older a man gets the more difficult is it for him to get out of mental grooves himself, or to appreciate the new grooves in others; but at the same time his mind is as strongly acquisitive as ever in its own groove. It is very different from the bone and muscle, and in the sphere of intellect who shall set a limit to the extent of any man's acquirements! Just think of the innumerable mental acquirements made by little children, the 'real intellectual giants'! There is absolutely nothing in the physical sphere to which this may be for a single moment compared. And long after the rest of the body has attained its full development and ceased activity in acquiring, the brain goes on and on, making acquirement after acquirement in the realm of ideas and thoughts—apparently unlimited in its capacity for acquiring, though the directions of this capacity become fewer and less diverse.

It is plain, then, that it is in the sphere of mental acquirements that the real making of a man is a possibility. His physical tendencies impose the strictest limitations upon developing in that sphere, but once the development of the mind begins it may go forward to almost any extent. That is, of course, the reason why individuals differ so much more in their mental characters than in their physical ones. But the two sets

of traits are both human, interdependent, developed together, from the same source, under the same conditions, and—who can doubt it!—in accordance with the same laws. Not in accordance with analogous laws but the same laws.

Alexander Pope was a striking example of this. Despite the unusual limitations imposed upon him by inherited physical tendencies, he nevertheless was able to develop his mental tendencies to an extraordinary degree, the capacity to do which constituted his genius. So marked was this innate capacity in him that it may be regarded as a variation.

To some readers it will probably come as something of a surprise to find such traits as morality and affection classified as acquirements rather than as inborn instincts. Most qualities of that kind are popularly regarded as inborn instincts, in spite of the fact that the evidence is all in the contrary direction. A full discussion of the matter would be beyond the scope of this work, but for the benefit of those to whom the idea appears strange we may quote a few paragraphs which will suffice to make clear what has been stated.¹ It will be sufficient if we consider the following traits: parental love, modesty, morality, fear, and hate; these being the kind of characteristics which are commonly deemed inborn and which it is important to understand are acquirements.

¹ From Dr Archdall Reid's 'Principles of Heredity,' chaps. xx. and xxi.

"The extent to which mental acquirements have replaced instincts in man is seldom if ever realised. With the exception of the desire for rest and sleep when wearied, nearly all his remaining instincts are mere incitements to make acquirements. Even sexual and parental love incite thereto. Men and women endeavour by acquirements to increase their powers of fascination. The mother *learns* to tend her offspring. . . . It is very doubtful whether the human male has any 'natural affection' for his children. There are indications that he acquires his love for them, as he may acquire a love of country or of a particular religious system, through the incitements of his imitative instincts. It is notorious that the custom or fashion prevailing in any race or class largely determines whether the men and the women composing it shall be good or bad parents. . . . Many races, ancient and modern, savage and civilised, have practised infanticide apparently without pain or compunction."

"Modesty is supposed to be an instinct. . . . But the baby has no trace of it, and apparently would not develop an iota but for his imitative faculty. . . . Only those races that wear clothes are modest, at any rate in the Christian or Mohammedan sense. Doubtless clothes were used originally for warmth or ornament. But in time constant concealment of parts of the body led some races to the notion that it was wrong to expose them—some races but not all. . . . A

manifest tradition, a mere acquirement, modesty has become as strong or stronger than any instinct. . . . The Turkish woman is modest about her face: the English woman delights in displaying it."

"Morality is said to be an instinct. But there is no evidence that any human individual or race ever possessed any morality except such as was acquired through the imitative faculty, or, in rarer cases, through reasoned thought. The extraordinary diversity of moral systems in time and space, the sharp contrasts that exist between race and race, the swift transitions which have occurred during history, are conclusive evidence that morality is no other than an acquirement."

"Fear and hate are said to be instincts. As a fact, in man, they are acquired emotions. The adult fears or hates nothing except that which he has learned to fear or hate. . . . He gains these impulses to action through previous experience of injury. The new-born infant neither fears nor hates anything."

These passages are all that we need quote for our present purpose, which is to emphasise as far as possible the extent to which man's mind is made up of acquirements, the basis of these being his faculty of memory and his instincts, the latter of which are so feeble that when born he can do little more for himself than cry when in pain and suck when in hunger. The fact is abundantly plain that in the mental sphere man's acquirements

infinitely outweigh his inborn characters, and that it is in this realm that he presents infinite possibilities. That these mental traits—especially those which are associated with what is termed temperament—are largely dependent upon the so-called physical condition is, of course, well recognised. As a rule, the better the health the better the spirits, and the worse the health the greater the mental gloom. Gout, liver complaints, and dyspepsia, carry with them their corresponding states of mind. Indeed, so closely are the two combined that nowadays any mental peculiarity is attributed to some corresponding brain change, a change, that is, in actual brain cells. The time has gone by when a man with a faulty brain is expected to behave as other men, or punished for not so doing. He is now treated as a patient, not a criminal. Slowly we are recognising that the whole of a man's nature is governed in accordance with the same laws, the only difference being in the parts acted upon.

It would thus appear that a man is quantitatively a mass of acquirements, and that he is especially so mentally. Indeed, his mind is just what he chooses to make it, or allows it to be made, or what it is forced to be made. Not that every man can become a genius, for such unusual capacity of acquisition is inborn and is the factor of variation. But the average person has quite sufficient capacity of acquisition to enable him

to become all that is necessary for his own well-being as well as for that of the community in whose midst he dwells. That statement conveys a truth of tremendous importance. It means—to take a concrete example—that if one hundred newly born infants be taken haphazard from all social grades and every kind of inheritance, probably more than ninety per cent. will be found to possess sufficient capacity for making the acquirements necessary in order that they may become useful and valuable citizens. It means more than that. It means that if one hundred newly born infants, chosen from the worst surroundings conceivable, from criminal and degraded parents, were transferred at the moment of birth into an environment from which they could obtain nothing but good, that they would in the vast majority of cases develop into average men and women. Why? Because, as we have seen, the great majority of the characteristics of their parents, good and bad alike, are themselves acquired and not inherited. Under like circumstances the children will, of course, in their turn acquire these undesirable or desirable traits; and, as the environment of the child is commonly that of the parents, child and parent tend to be alike. Hence the popular fallacy that so much is inherited. The proverb that ‘like produces like’ is true not only of germ-plasm but also of environments. If it were not so, the quest of the social reformer would be absolutely hope-

less. As it is, he works largely in the dark because of his ignorance of the principles of heredity. He does not know what is inheritable and what is not, nor how much is inborn and how much acquired. He does not realise that education, sanitation, and the rest, are but the giving or withholding of opportunity, and that, as Bateson says, the giving of a stick will not make a dwarf pea climb, although without it the tall pea lies prone upon the ground.

There are some few, it is true, whose inherited tendencies are so strong that they cannot be overcome, or whose variations are so marked that these predominate. When that happens we see that these tendencies stimulate the possessor to undesirable acquirements which may end in a criminal life. Such cases, though rare, do occur, and are really to be regarded as moral insanities. They are pathological variations. When a child, whose environment is all that it should be, nevertheless persists in a habit of lying or stealing, we have to deal with a variation which is a matter for treatment, not blame. When a child, on the other hand, never does anything wrong at all, its piety is no less pathological and usually associated with physical disease involving an early death. A young child should be a healthy animal which can be trained this way or that, according to the environments in which it is placed. Very rarely, indeed, there occurs a variation carrying with it physical perfection and an

ideal moral life ; when these have occurred in the history of mankind the personalities became the object of worship.

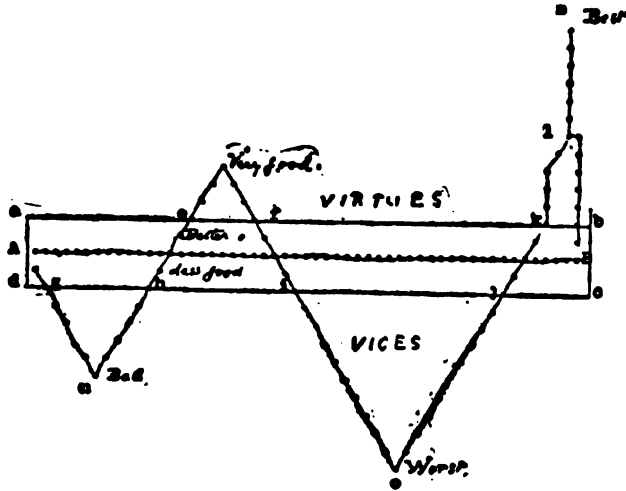
On the whole, the infant has average possibilities. Variations occur universally and account for individual differences under similar surroundings, but as a rule the variations are small and produce neither devils nor saints, geniuses nor fools. In exceptional cases variations are great, and then appear the most striking personalities for good or evil, genius or idiotcy. The proportion of infants with inborn tendencies to evil, so strong as to render the children utterly beyond redemption, is extremely small. Such children, however, do occur. The proportion likewise of those whose inborn tendencies are so strong for good as to place them beyond any possible risk of contamination from unfavourable surroundings is perhaps smaller still ; but these too occur, and their names are immortal. The majority of men come between the two extremes : they can never become perfect either physically or morally, but neither are they necessarily hopeless failures in either sphere. Their possibilities are determined by their inherited or variational tendencies, beyond which they cannot go ; but these in the vast majority of individuals include the capacity for average physical development in a fairly good physical environment, within the limits set by nature for the growth of organs and tissues ; they also include the capacity for mental and moral

development in response to environment, to an extent in which the limits set by nature are not at all apparent.

Our quantitative analysis may thus be summarised. Man's "notion of the world is only to a small extent inborn and instinctive. He inherits comparatively little of that sort from his parent, and transmits little of the kind to his child. But he is pre-eminently capable of learning. Though his mind is a blank at birth, yet every sight and sound, every sensation and experience, adds to the store of knowledge piled up in his immense memory. Because man depends so greatly on experience, and since the experiences of different men may differ very widely, it follows that men may differ very greatly in mind from one another. Their actions are controlled by their acquirements; they do not move in a narrow, instinctive groove. One man acquires Spanish, another English; one man becomes a hunter, another a statesman; one becomes a priest, another studies science; one is civilised, another is a savage. The differences are endless. Man's splendid power of learning through experience, and of applying the contents of his memory to forecast and mould the future, is his peculiar glory. Man is mentally a bundle of capacities for making acquirements, actual acquirements, and instincts which are mainly incitements to make acquirements" (Reid).

A study of the character chart appended may

perhaps assist in forming a clearer idea of the quality and quantity of human characteristics, the source and amount of which we have now



EXPLANATION

The line *AB* represents the average normal life, lived within the lines *ab, cd*. Departures from that line as high as *e, f, h*, and as low as *g, h, i, j*, are unusual. At *n* there is deficiency, physical or mental or moral; at *o* great depravity—a variation. At *l* there is great excellency, mental, moral, or physical—a variation. At *m* there is reached the nearest approach to the highest ideal—a variation which is worshipped.

investigated. We have laid our foundations, we have analysed our material. We now see exactly what the Problem involves, namely, how the best may be obtained from the material available.

We have next to turn our attention to the laws and processes in accordance with which this material is developed into the best that is possible for any given man—which is his greatest life.

CHAPTER IV

THE DEVELOPMENT OF THE SOUL

WE have now reached the stage at which those for whom we specially write will be prepared to follow us in our search for the explanation of our Problem. We have examined into all the possible sources of human characteristics and formed some estimate of their relative quantities. But at this point we are abruptly reminded by our orthodox friends that we have omitted to take into account the most important part of man, namely, his SOUL ! That indeed would be an extraordinarily gross error of omission. But have we actually omitted it ? We stated on a previous page that all the characteristics which it is possible for an individual under any circumstances to possess, are traceable ultimately to the action which takes place between his surroundings and his inherited tendencies or potentialities ; we could imagine no other conceivable source of origin. According to this view, then, granted that man has a something which is called his soul, which is an integral part of him, it follows that this possession is either an inherited one, or a subsequent acquirement in response to some stimulus. We

cannot regard it as a variation if it is common to every man. Even if it be held that man alone among living creatures has this 'soul,' or as it is put in the language of orthodoxy 'a soul to be saved,' that statement is merely a form of words to describe something which after all must be either an innate germinal character or else an acquired thing. In either case it must be subject to the universal laws in accordance with which both germinal and acquired characters behave. These laws must mould its growth, maintenance, and decay.

It is extremely difficult to know exactly what is meant by this word 'soul,' which falls so lightly from the lips of thousands. Most people use it as if it were self-explanatory. They seem further to assume its existence as a sort of separate entity and yet a personal possession, and they proceed to endow it with a number of qualities and possibilities of its own, most of which when carefully analysed will be found to be nothing more than forms of mental phenomena.

Be it carefully noted that the existence of the 'soul' is not denied or even doubted. Far from it. What is asserted is that this 'soul' attribute of man is either an inborn tendency or a subsequent acquirement based upon such. If the latter, it must develop in response to its own specific stimuli of nutrition, use, and injury. As a human possession, it must follow the same laws in accordance with which other human attributes also appear and grow.

It will be well to be very clear on this matter. It is not necessary to have before us any particular definition of a 'soul,' any more than it was essential to have definitions of morality, modesty, or any of the other traits already dealt with. For our purpose it matters not what the 'soul' is exactly; it is sufficient to recognise that the term represents to the majority of people a something that man possesses, one of his characteristics. We may or may not be driven to the conclusion that it ultimately means a certain mental attitude. In any case there is a something not readily defined but in the existence of which most people believe. The reader may supply his own definition which will vary with his own acquired religious ideas; but no matter what he believes the 'soul' to be, the question arises: How does a 'soul' develop and what is its origin?

Take the latter question first. Of the ultimate origin of anything, we know nothing. We know not the ultimate origin of life itself; if we did, the rest would in all probability be easy. But given the fact that living matter exists, we do know something of the laws of its development and evolution, and we act, or should act, in accordance with the knowledge gained. We do not ignore vital phenomena because of our ignorance of the origin of life, and neither need we hesitate to observe the life-history of a 'soul' because we are in the dark as to its ultimate origin. Notwithstanding this ignorance, we ought to be able

in the one case, as in the other, to form some idea as to its growth and development.

But the ultra-orthodox reader again objects by saying that the 'soul' neither grows nor develops, it is perfect from the beginning! This is the kind of assertion which nauseates the modern mind, and renders it utterly impatient of religion as often presented. It is the kind of statement which makes orthodoxy, in some of its forms, so hopeless to help and so unsatisfying. It is not so common as it was, perhaps, but still the statement is made, and presumably believed, in spite of the utterly gross mental absurdities which such an idea involves. It is still asserted by some that every human being, every new born babe, comes into this world with a perfectly developed 'soul.' The idea is really unthinkable; but those who make such assertions do not think, and would rather others did not either. Can anyone for a moment imagine anything which the word 'soul' conveys to them being possessed by an infant who has absolutely no conception of right or wrong, no idea at all of any ethical standard, almost no mind as yet! Whatever the 'soul' may be it surely demands first a mind in its possessor, or it would seem to mean little or nothing. The idea of a perfect 'soul' being an attribute of a new-born babe involves one in ideas almost too absurd to mention, so grossly fantastic are they. At what period of the life in the womb did this 'soul' enter into the embryo or fœtus?

Has a three month's foetus this 'soul'? If not, when does it arrive? Is it there at seven months—the earliest period at which a human infant may be born and live? If so, is it there whether the child be born alive or dead? Or is it not present unless the child is born at full time, and if not, why not? And even then, has a child one hour before birth this soul, or not until the moment it is delivered? It is easy to say that such questions are ridiculous; so they are, but they are ridiculous only because the teaching which renders them necessary is itself ridiculous.

It matters not in what exact sense this word 'soul' be used. If it be as G. H. Lewes says, "all the *modifications* of the thinking being—all the sensations, thoughts, and passions, require to be embraced in some general idea, as the ultimate ground and possibility for these modifications. This idea is that of an Ego, of a personality—of a soul in short": if this be meant, then obviously the soul is made up of many acquirements. Is it that part of man which enables him to think and reason, or that which renders him a subject of moral government, or the emotional part of his nature, or the seat of the feelings, or the vital principle, or the source of action, or any combination of two or more of these? Still is it an acquirement based upon inborn tendencies. Even if it be that part of man which is immortal, it still must be either inborn in him or be obtained from without—an innate possibility

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or a pure acquirement, and in any case therefore a matter falling within the laws of growth, nutrition, and function. Think of the 'soul' in any terms at all conceivable to the mind, it remains an attribute of man just as much as his mind is, and any reasonable conception of it demands its gradual growth to perfection like any other attribute, and consequently its possibility of degradation by processes of atrophy. Those who see no reason to doubt its immortality will probably lean to the belief that it never reaches perfection in this life but demands another environment for its full development. That idea is intelligible whether based upon any reliable evidence or not. But to imagine that a quality or possession of the kind involved in the idea of a 'soul' is ready-made in an infant, simply destroys any ethical value in the idea itself and is beyond comprehension.

A very little thought will force us to the conclusion that if every human being has within him the innate capacity to develop a 'soul,' it will depend largely upon his environment after birth whether and to what extent that capacity is utilised. In other words, a 'soul' is not born, but made. It is no more born than mind is born. Both are acquired, even if we suppose they are independent. The soul of a man of forty is no more the same as that of the same being at the age of four than his mind is the same. And curiously enough even those who seem to *believe*

that the 'soul' is fully present in every human being at all times of life *act* upon the biological view that it has to be gradually formed by training, in other words, that it grows in response to its environment. They act as if the growth or atrophy of this 'soul' was a matter of the greatest importance and a thing to be striven after with all a man's strength. They recognise plainly that if it be not nourished and exercised and cared for, and protected from harmful agencies, it may decay, atrophy, and possibly disappear. The whole purpose of religious teaching and instruction is directed to this end, no matter what dogma may be asserted. Practice, if not theory, demands a gradual process in the average person, though it may be unnecessary in the case of one or two in the history of a world, and hopeless in the case of a few others. These are extreme variations. All religious systems really imply that a man's 'soul' depends upon the measure of success he obtains, in his struggle in life, to obtain the mastery over evil of one sort or another. The kind and amount of 'soul' obtained is the result of the physical and moral environment acting upon the capacity for soul-development possessed by the individual. In other words, it is the result of the interaction between an inborn capacity and external circumstances. Theology may or may not teach that a 'soul' is an inborn human character, but whether it does so or not it takes care to inculcate in its followers the necessity

of making the acquisition. The 'soul' is 'lost' or it is 'saved' according to the life lived or the beliefs held. In plain words, it grows or does not grow according to the influences acting upon its growth-capacity, like other traits. 'Saving a soul,' if it means anything, means giving a man the opportunity to live in an environment in response to the stimuli of which his soul-capacity may grow. 'Losing a soul' means depriving a man of this opportunity of a suitable soul-environment, or it means his own voluntary refusal to live in that environment, which alone will grow a 'soul.' The greatest of ethical teachers maintained that from the point of view of profit and loss, it did not pay a man to gain even the whole world if in so doing he failed to allow his 'soul' to grow. Obviously, like other capacities for growth and development, that of the 'soul' can be starved, stunted, interfered with, neglected, destroyed.

Every increase of human knowledge only lends additional strength to the conviction that the whole universe and all its parts has come into existence, is maintained, and undergoes decay, as the result of definite laws and in no haphazard manner; in fact, the modern belief is in the unity of nature and the reign of law. "It is a great gain to have eliminated chance, to find science declaring that there must be a reason for everything, even when it cannot hazard a conjecture as to what that reason is." The old orthodoxy

seemed to think that such a belief in the reign of law conflicted with that in a supreme power, but it does nothing of the kind. It simply seeks to indicate what is known as to the methods by which that power works. The deist need not give up his belief because it seems certain that the supreme power—which he calls God—works along certain lines and by definite processes, instead of by millions of disconnected and instantaneous creative acts. It is not a question of whether this power *could* have acted in this way or that ; it is simply that, as far as we are able to learn, the one is the method adopted, and the other is not. Gradual development and evolution, as far as human observation can judge, seem to have been the means used. Everything seems to have been the result of ordered steps, although the manifestations may appear sudden. Thus, certain functions of the human body appear suddenly, but on investigation it is found that there has been long previous preparation without which the sudden manifestation could not have occurred. Without any obvious warning, a man may go suddenly mad—an instantaneous manifestation ; but it is not on account of an evil spirit having at that moment entered into him and dominated his acts ; it is the result of all that has happened in his mind in the past, and to the germ-plasm from which he has been developed, and is to be associated with the gradual decay of part of his brain till a point is reached at which

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sanity is no longer possible. The gradual process may be perfectly unconscious, especially in the mental sphere, though a physical organ may likewise appear to break down as suddenly ; both, however, are the result of unnoticed but none the less existing previous changes. Mentally also a sudden conviction may be arrived at, a man may ' change his mind,' as we say ; but the manifestation thus appearing is the result of a number of received impressions which have unconsciously paved the way for the conviction to assert itself *suddenly*.

No educated person nowadays could accept with satisfaction a statement that the world came into existence in B.C. 4004, yet it is not very long ago when it would have been held in orthodox quarters most heretical to doubt it. In every sphere it is recognised that the keynote of the universe is gradual change in accordance with law, and mankind lives in the hope that the gradual change ultimately makes for progress. What the modern mind calls ' law ' the orthodox mind calls ' God's Will,' but the latter is curiously inclined to limit the operation of that will to an ancient conception of its method of acting—a conception unsupported by evidence. This limitation imposed by ancient dogma is adhered to by some, apparently because they think that they give up some of their belief in omniscience and omnipotence by admitting that anything can be or has been discovered of the methods ;

whereas it is the simple truth that the modern religious mind, which is at the same time scientific, has the opportunity of reaching an infinitely grander conception of the universe than was ever possible before. The scientific mind, no less than the orthodox, demands a first cause; but the former, in the absence of exact knowledge and with a far deeper reverence for the truth, refuses to accept a description of the power behind and in all things which is embodied as a final dogma in any creed, no matter what its origin.

It is unnecessary to labour the point; it can only be regarded as one of the philosophical curiosities of our time that, while everyone admits the truth of the reign of law and order in things 'temporal,' there are still some who refuse to apply their knowledge to things 'spiritual' and who persist in regarding the latter as things apart from all other known phenomena and therefore outside all that is known of law.

For them, there is no such thing as the development of the soul. It is something of the nature of which we know nothing—and yet in practice they insist upon its being treated like any other human attribute in order that it may develop. As in many other spheres of actual life, man has often found out empirically the best way to proceed, long before he has understood the reason for his proceeding. In this case there are still some who do not wish to understand. They need have no quarrel with those who do.

PART II
THE EXPLANATION

Part II

CHAPTER V

THE EXPLANATION

WE have now to turn our attention to the principal object we have in view, namely, the search for some statement of the laws in accordance with which spiritual phenomena occur. What are the laws by living in accordance with which the greatest life may be attained? What is the process by which the wicked man is enabled to turn from his wickedness, do that which is right, and 'save his soul?' We approach this part of our task with considerable anxiety and much humility, but still with some confidence that, if a sufficiently wide view be taken, we may hope to find the looked-for solution in the application to this part of man's nature of some all-pervading laws and influences. We refuse to accept any magical theories which place these phenomena outside the scope of other human experiences. It is impossible to believe that what we term a spiritual character, any more than a physical character or a mental one, arises *de novo* or by processes which have no counterpart in the rest

of the natural world. In a word, the attempt must be made to bring this particular acquirement or group of acquirements into line with other acquirements which we know to be due to man's inherent capacity to develop in response to his surroundings. Even should our lack of knowledge or the power to apply it result in partial or complete failure, there will remain the satisfaction of having made an attempt to unify what is known.

In this attempt it will be well to begin with a statement of known facts and recognised laws, before passing to applications of those laws which are new—to state first the facts and applications in the so-called physical sphere; then in the so-called moral sphere, and lastly in the so-called spiritual sphere—remembering that we use these terms for descriptive purposes and for the sake of convenience, but believing that they represent nothing more than the varied aspects of one aggregation of natural phenomena. We shall seek for no analogous spiritual laws, no analogous moral laws, but for some universal laws which apply not merely to one but to every part of man's nature. If evolution be true, it is universal. If the current theory of evolution be true, then in all these spheres there is a selection of the fittest in the struggle for existence, be that struggle physical, mental, moral, or spiritual.

No one doubts that evolution is a fact; that is, no one doubts the existence of adaptive change in response to varying environment. Every

religion demands a belief in that, because no religion teaches that man is to-day what he was originally. How that adaptive change is brought about may be, and is, a matter of theory, of which the Darwinian is the most widely believed, either as originally stated or in its subsequent modification. The presumption is, that if it can be shown by what means man has evolved in certain directions, a further application of the same laws would show how he may evolve in others. If it can be shown how humanity has made any great advance in some aspects, then it is probable that the same principles—for nature is sparing of her ways and means—will be found underlying all other possible advances.

We may, for this purpose, suppose that human nature may be viewed from four aspects, all of which are interdependent and have intimate relationships one with another, but which may be more or less artificially separated for convenience sake. We should thus have to deal with :—

- (a) Physical phenomena.
- (b) Mental phenomena.
- (c) Moral phenomena.
- (d) Spiritual phenomena.¹

¹ It is of course quite impossible to treat any one of these spheres without encroaching somewhat upon the others. It is when we do so that the intimate connection is seen. "A healthy mind in a healthy body" shows that even popularly the two are recognised to depend on each other ; and the close connection between moral evil and physical disease is equally obvious. If, as is probable, the spiritual

Our problem is—How to attain the greatest life—the most perfect life—in all these spheres. In what way, and in accordance with what general laws, does man attain advancement towards perfection—physically, morally, mentally, spiritually? How is a man able to survive all the destructive agencies of all these types which act upon him? How does he become more and more able to do so? To answer these questions it will be necessary to search man's history and observe what has happened—to see how man has reacted to these agencies—to note why he has perished when he has perished, why he has survived when he has survived. We require to find some agency of selection acting universally, an agency which eliminates the unfit and selects the fittest—in a word, the most universally destructive agent known. Given the fact that every human being has the capacity of physical, mental, moral, and spiritual *life*, what is the agency which is most universally destructive to that life?

There is one answer, and one answer only, to that question :—

THAT AGENCY IS *DISEASE*

The one universally-acting destructive influence, that which everywhere tends to destroy life, to

life and the soul of man expresses the general result of all these, then the attempt to separate them absolutely is a perfectly futile one.

eliminate the unfit, is Disease ; and disease tends to produce DEATH. It may be physical, mental, moral, or spiritual, but, in all spheres and in all circumstances, it is disease which is the great life-destroyer.

It sounds a truism, and so it is, and yet curiously enough it is the one factor in the evolution of living creatures which has been least considered by those who have studied the subject. Man must be able to some extent to resist this agency, or he could not live. If he became more and more susceptible to it, the earth would soon become uninhabited. His power of resistance must be a matter of law. Therefore the laws in accordance with which man is best able to resist or overcome disease are the laws in accordance with which he is enabled to approach nearest to perfection. Fortunately, both the laws themselves and the method of their operation are well known in many of their phases of action ; all that is necessary is to extend their application more widely.

We shall, therefore, consider first, the case of those physical diseases which tend to cause death universally, and observe by what means man is enabled to survive and become more and more able to withstand this destructive agency. These widespread diseases are all of the infective type, spreading from one individual to another throughout the community, and causing tremendous loss of life. They are now known to be due to minute living cells called microbes,

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germs, bacteria, or micro-organisms, some of which are extremely deadly. These micro-organisms are so commonly distributed in nature that no one can escape coming into contact with them. It is therefore quite obvious that, unless human beings possessed some means of repelling their attacks, no one would escape infection. Further, unless all possessed some power of resisting their results, no one when infected would recover.

In other words, there must exist in man some degree of *Natural Resistance* to these causes of disease, a resistance which is an inborn germinal character in the individual, without which he could hardly survive. This is actually the case. The power thus possessed is termed 'NATURAL IMMUNITY,' or 'INNATE IMMUNITY,' because it is an inborn germinal character.

These terms introduce us to the most important word in the whole of our subject—probably the most important word in the whole of biological science—the word IMMUNITY. Its meaning must be clearly understood if we would grasp in any degree the meaning of life itself in any of its varied aspects. It holds the secret key which alone unlocks all the most important problems which man in every part of his nature has to settle for himself or have settled for him; and, amongst the rest, it contains the key to the special problem on which we are engaged—that of how to live the greatest life.

The highest possibility for man is to possess immunity to all that is detrimental to his perfect development, or destructive to his life.

It is, or should be, his greatest aim to become immune to any and all agencies whatsoever which tend to produce in him any form of disease.

Conversely, his highest possibility is to possess susceptibility to all that conduces to his perfect development, to all that strengthens his life.

It is, or should be, his greatest aim to render himself susceptible to any and all agencies whatsoever which are conducive to that end.

There is nothing approaching this in importance for man. The most perfectly healthy man that lives, is so in virtue of his immunity to physical infection.

The most perfect character ever known in the history of the world, was so in virtue of his immunity to moral infection.

What is IMMUNITY? The word will figure so largely in our argument that it is most essential that we grasp its meaning and define exactly the sense in which it is used. Literally, of course, the word implies a freedom from, or exemption from, some obligation, duty, or imposition. It is a particular privilege. Thus Dryden speaks of 'immunity from error,' and Cowper of 'a long immunity from grief or pain'—references which cover phases other than the physical.

To make the modern scientific meaning and

use of the word perfectly plain, we may define and exemplify it as follows :—

IMMUNITY

General definition.—IMMUNITY is that condition in virtue of which there is absolute or partial freedom from, or capacity to resist, certain agencies.

A. PHYSICAL IMMUNITY is that condition of a race or an individual in virtue of which agencies destructive to life can be resisted absolutely or partially.

(a) *Example.*—In the sphere of universal disease the destructive agencies are micro-organisms. Immunity here is, therefore, the capacity of an individual to resist infection or to recover from disease.

B. MORAL IMMUNITY is that condition of a race or an individual in virtue of which agencies destructive to moral life can be resisted absolutely or partially.

(b) *Example.*—In the sphere of morality the destructive agencies are temptation and sin. Immunity here, therefore, is the capacity of an individual to resist temptation or to recover from sin.

C. MENTAL IMMUNITY is that condition of a race or an individual in virtue of which agencies destructive to mental life and development can be resisted absolutely or partially.

(c) *Example.* In the mental sphere the destructive agencies are such factors as faulty education,

or religious systems which repress natural curiosity, or the varied causes of lack of opportunity for the mind to grow. Immunity here, therefore, is that capacity of an individual in virtue of which he is able to resist repression or to overcome difficulties.

D. SPIRITUAL IMMUNITY is that condition of a race or an individual in virtue of which agencies destructive to spiritual life or development can be resisted absolutely or partially.

(*d*) *Example*.—The Founder of Christianity.

The condition known as 'susceptibility' is the exact opposite of 'immunity'; it is that condition of an individual in virtue of which he is *liable* to be affected by all these varied agencies. The converse of the above definitions will, therefore, be those expressing physical, mental, moral, and spiritual *susceptibility*. We shall see that the conclusion will be forced upon us, that man is simply the result of the sum total of all his immunities and susceptibilities.

The above brief definitions should be thoroughly known and remembered before proceeding further, as the subsequent argument depends upon them. In the sphere of disease immunity is that condition which enables us to keep free from infection, or, having become infected, to recover. By its means we are enabled to withstand the attack. That is, however, but one phase of the all-pervading principle. Immunity enables us to resist

attacks which threaten our lives from every quarter. Without this power of resistance every one would become the subject of infection, and no one could recover when attacked. Life would be an impossibility. In fact, as already hinted, life is the measure of the fulness of immunities. In the sphere of disease total immunity means a complete insusceptibility to any given infection—a condition which it is the great aim of modern scientific medicine to produce. In the sphere of ethics total immunity means complete insusceptibility to any given temptation—a state which it has been the aim of the founders of every religion to convey. In both spheres, if the immunity be not inborn, then arises the problem of how it may be acquired. In disease, if a man be not naturally immune to infection, he must be treated in such a manner as to make him so. In ethics, if he be not immune to temptation, he must also undergo a treatment by which he may become so. In the sphere of disease various methods have been suggested in order to make man immune from this or that infection, but all depend upon the law of immunity. In ethics various philosophers and founders of religions have propounded what they thought to be infallible means of conferring this protection, but all alike depend upon the same general principle. If not possessed naturally, this immunity must be acquired by methods to be considered later ; but at present we are concerned with the inborn

power possessed, to some extent, by every individual—the power of Natural Resistance or Innate Immunity.

In order that the universality of the laws of immunity may be thoroughly realised, we may very briefly refer to *races* as well as to individuals, and to species other than the human—briefly, indeed, because our chief concern is with the individual problem. Many examples of this Natural Resistance might be quoted in illustration of the law ; the following will suffice.

The lower animals, in virtue of their inborn natural resistance or immunity, are absolutely resistant to some of the infections which cause specific diseases in man. Neither typhoid fever nor Asiatic cholera occur in animals under natural conditions, even though their human owners are being decimated by these epidemics. On the other hand, human beings are immune from some infections which attack animals, for example, swine fever. Natural Immunity, therefore, varies with the species of animal concerned ; some are immune to one agency, some to others ; some are susceptible to this, others to that. But not only so ; this natural resistance varies with different races of the *same species*, which is a more interesting and important matter for us. Thus, the various human races, black, yellow, red, and white, exhibit varying degrees of resistance to the same infecting agencies, and these are doubtless correlated to less obvious mental, moral, and spiritual

immunities, a fact which evangelistic zeal would do well to bear in mind. Thus, "the field-mouse (*Arvicola arvalis*) is very susceptible to glanders and tuberculosis, whilst the common house mouse and white mouse are resistant. The marmot (*Spermophilus guttatus*), which is indigenous to Southern Russia, possesses a remarkable susceptibility to glanders. Even racial differences may play an important part. Algerian sheep, for example, are much less susceptible to anthrax than are the races of European sheep. Similarly, certain breeds of swine (Yorkshire hogs) are decidedly more resistant to swine erysipelas than are other breeds. Differences are found also among the races of men. Negroes are noted for their remarkable powers of resistance to yellow fever, and in lesser degree to malaria, yet they quickly sicken of, and succumb to, tuberculosis and small-pox."¹

Now, inasmuch as the micro-organisms, which are the great agents of infection, are wide-spread in nature, it is obvious that this natural immunity depends upon some power in the tissues of an individual to overcome and destroy these germs when they gain access on to, or into, the body. As a matter of fact, we know that certain cells and fluids in the body have this 'germicidal' capacity highly developed during healthy life, and we know, therefore, that Natural Resistance

¹ Professor Hans Buchner on IMMUNITY. *Encyclopædia Medica*.

is chiefly the capacity of the individual to resist infection, rather than to recover from disease.

In order to appreciate the working of the laws of immunity we must now turn to the past history of man and note carefully what has taken place. As far as physical, mental, and moral phenomena are concerned, the page is open for him who wills to read ; and our final task will consist merely in bringing the spiritual phenomena into line with these. It will be simpler if each of these phases be considered independently ; and we, therefore, turn first to a consideration of the laws of immunity in relation to physical infectious disease.

CHAPTER VI

THE EVOLUTION OF PHYSICAL IMMUNITY

WE have selected Disease as the type of agency to study, because of all others it is the most universally selective agent among human races and individuals. From the point of view of immunity, infectious diseases belong to one of two types, which are exemplified by tuberculosis and measles, and, as the history of these conditions is well known, and as they themselves are so widely spread, they will serve our purpose.

Consider, first, the case of tuberculosis, a disease from which no less than one-seventh of the whole human race is said to perish, and which is, therefore, necessarily a potent agent of selection. The purely medical aspect of the disease does not concern us here, it being sufficient to know that it is caused by a definite micro-organism—the tubercle bacillus—and that it is infectious. The biological aspect is, however, of the greatest possible significance.

In order to trace the course of events clearly, that is, to trace the interaction between the environment and the material acted upon, we must note what occurs when that environment

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begins to act for the first time ; what happens when, for the first time, the material comes into that environment ? What acquirements are made in response, if any ? What variations can be naturally selected which will enable man to evolve towards perfection ? What innate tendencies has he, by means of which he is enabled to preserve his physical existence in the face of threatened destruction ? How does he progress under these circumstances ? These are the questions to be answered, and the facts bearing upon them must be carefully considered.

If, then, tuberculosis be introduced amongst a race as a new disease, it acts as a strong agent of selection, killing a large proportion of the population. The only reason why all are not destroyed is because there are some who have a higher degree of innate natural resistance than others. In other words, the fittest—in this case those most resistant to tuberculosis—survive. Now, this resisting power of the survivors is an inborn trait, and, therefore, is hereditary ; and, as these survivors form the majority of the population after the disease has carried off the less resistant, it follows that the next generation is born more resistant to this condition. This process of selection, being repeated generation after generation, in time evolves a race very highly resistant to tuberculosis, because born of parents who in each generation are more immune than their immediate predecessors. Such a race in course of time is

enabled to *resist this infection* even when living in cities and towns—in slums, ill-ventilated and worse lighted—conditions under which none but the most resistant individuals could hope to escape. Such conditions form natural breeding places for disease of this type, and, were it not for the process just described, no race could possibly live under them.

It is a common error to suppose that the presence of infectious disease causes *racial* deterioration. There could be no greater mistake. The exact contrary is the case. Doubtless disease causes *individual* deterioration, but this is followed by unrelenting selection—the elimination of the unfit individual for the benefit of the race. It may seem cruel, but it is nature's method. It may be worth while to note, just in passing, what would happen were the erroneous popular idea correct. Suppose, for a moment, that infectious disease produced *racial* deterioration in the direction of increased susceptibility in succeeding generations; then it would follow, as the night the day, that in course of time the race would perish. As a matter of fact, the history of all infectious disease bears eloquent testimony to the contrary. In fact, it may be stated as a law of immunity that *any race is resistant to any infectious disease precisely in proportion to its past experience of it*. So it is that, by continued elimination of the most susceptible, each successive generation becomes more and more

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resistant, and the more ruthlessly severe the eliminating process the more quickly will immunity be attained. The individual perishes; the race survives.

We can now understand the reason why modern Anglo-Saxons can and do live and multiply under conditions which would wipe out any savage tribe amongst whom such disease had not previously appeared, and in whom, therefore, there had been no evolution of natural resistance. Thus, since cities are the inevitable accompaniment of modern civilisation, those races only can ever become civilised who can thus evolve. In tuberculosis the individual does not acquire a high degree of immunity after an attack; indeed, he is apt to become more susceptible to further infection; hence, those only with the higher degree of inborn resistance can ultimately survive in the struggle against this universal disease. Evolution, then, here produces in course of time, by natural selection, a race possessed of *a high capacity of natural resistance* to infection, or inborn immunity.

It would unduly burden our argument at this stage were we to quote here all the evidence which has been collected from various sources in support of the facts which inevitably lead to the above conclusions. The reader is, therefore, referred to Dr Archdall Reid's books on Heredity, in which he deals fully with the evidence on the subject. In the meantime, it is advisable to

consider at once the second type of diseases which have left their mark on the evolution of races, of which measles may be taken as a striking example.

In our own country at the present day, measles is considered a disease of quite trifling importance, for the simple reason that, apart from any complications which may follow, practically all who take it recover from the infection and *remain afterwards immune throughout their lifetime*. That is the general rule. In other words, here is an infectious disease, widespread, to which the British race has, by some means or other, evolved *a capacity to recover*. The question is—How has this been brought about?

Once more, in order to understand this phenomenon, we must appeal to history and observe what has occurred when measles has been introduced amongst races or peoples to whom it was hitherto unknown. The first thing that strikes one in reading the accounts of such epidemics is their appalling severity, estimated by the terrible death-rate. In other words, it is quite obvious that, previous to its introduction, the resisting power of such races was extremely feeble. The proportion of deaths in such circumstances has varied from nearly one-third to one-twentieth of the total population. The survivors, of course, have been those who were fortunate enough to possess a greater power of recovery from this infection. This power is an inborn character,

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and is, therefore, transmitted by heredity to their offspring, so that the next generation starts with a greater average capacity for recovery against measles than had the former. As time goes on, successive epidemics continue to weed out the least resistant, leaving only those who are able to recover, until at last, in the course of centuries perhaps, once more we see a result of this stringent natural selection of the fittest, namely, a race in whom almost all the individuals are born with a capacity of recovery from this particular infection. The interesting point in this connection is, that the individuals still remain susceptible to the infection. We all get measles still, but *very few of us die from it*. So that in this case what has been evolved is, not the power of resisting infection—as was the case in tuberculosis—but *the capacity of recovery from infection*. We shall never become immune to the infection of measles; but any race *constantly exposed* to this infection will become, as we have already become, immune to its results.

We may, therefore, state as our first conclusion with regard to this matter, that—

A. Physical immunity is evolved in races as the result of the elimination of the unfit; this producing either *immunity to infection*, or the *capacity of recovery*, according to the type of disease concerned.

B. The immunity to the infection, or the capacity of recovery, in any race, is in pro-

portion to the past experience of that race to the disease in question.

Having thus stated the broad conclusions as briefly as possible, there are some further interesting and important points bearing upon the above argument which may be noticed in this connection.

In addition to the universal natural resistance to disease possessed by all in greater or less degree, we observe that after recovery from some particular diseases, smallpox for example, an *individual has acquired* an immunity to that special condition which he did not possess before the attack. Moreover, this acquired immunity lasts for a considerable time, in some cases for life—as is usually the case in smallpox. Measles and scarlet fever similarly confer this immunity from their special infection after a patient recovers. A second attack is very rare. This is obviously quite a different thing from the natural resistance first spoken of, which protects to a certain degree against all infection, but not to a great extent against any. But here, in the acquired immunity, the patient has to suffer first from the infectious condition ; and during his suffering he undergoes a reaction in his system, as the result of which he is in future immune, safe, protected, from any further attack of that same infection. He is just as liable as before to *other* infections, indeed, he may be more so ; but to the specific infection from which he has recovered he is absolutely or

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partially immune. We shall see that precisely the same phenomenon may be observed in connection with harmful agencies other than disease infections.

The recognition of this natural process came to man slowly, as far as we know. At any rate, it was not until comparatively recent times that men began to study the question and see how they could use it to their own advantage. In fact, the conception of acquired immunity seems to have first shaped itself with clearness in the minds of physicians when they saw the results of recovery from smallpox. The thought then occurred to some—"Since acquired immunity results from recovery in this disease, why not try and confer it artificially!" So they inoculated people with the virulent contents of the smallpox pustule, in the hope that those thus treated would acquire immunity. *So they did—if they recovered.* But they went through the danger of death from smallpox first, and, in addition, became sources of fresh infection for others for a time; and large numbers died from the inoculation, because their power of natural resistance was insufficient to cope with the disease.

Then the law stepped in and made this process illegal; it was too risky, too many went under. Those who survived were safe, but they were too few to make the process available as a general mode of treatment. In a word, it is not justifiable to give individuals deadly diseases on the chance

that they will recover and become immune—too many perish in the process. It is nature's method ; but it is too cruel for adoption in lands which have come under the influence of Christian ethics.

Then came the tremendous discovery that acquired immunity could be conferred upon individuals *without their undergoing the actual deadly disease* itself, but simply by undergoing a closely allied condition which was not dangerous to life. Jenner's discovery that vaccinia protects from smallpox showed the way to the application of this principle. A few days discomfort was sufficient for the patient to acquire an immunity which protected him, if not for life, at any rate for some years ; and the value of the process was so enormous that civilised states soon made it compulsory upon their peoples to undergo this treatment, and the most scientific nations demand that it shall be *repeated as often as it is necessary* to keep up the immunity.

And so, by gradual patient investigation, science discovered more and more perfect methods of conferring this acquired specific immunity for various diseases, until, at the present time, a stage has been reached in which no disease at all, not even a modified form, is given to the patient, but in which the substances conferring the immunity are manufactured ready for use in other animals, and injected straight into the patient in the form of an "antitoxic serum." This is an

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immense step forwards, because a serum can be used as a curative agent to save life after the disease has attacked the patient, whereas the other methods are only preventive, and must be used before the patient is infected. The advantage of the immunity which comes from recovery from disease is that it is lasting in its effect, often permanent; the disadvantage is that it takes time to acquire. The advantage of immunity acquired by inoculation of a serum is that it is conferred immediately on injection, and is, therefore, available as a curative agent; its disadvantage is that the effect is temporary, not lasting. Repeated doses are necessary to protect from repeated infections, in this method; but the process is certain and safe, and the supply of antitoxic serum unlimited—for those conditions in which a serum has been discovered.

So much for the principal facts in connection with immunity to disease. The whole matter will perhaps be more clear, and more convenient for purposes of reference, if these facts be summarised in tabular form as follows :—

IMMUNITY

I. *Natural Resistance or Innate Immunity*

Common to all in some degree.

Varies with individuals, species, and nations.

Can be increased by certain treatment.

Cannot be transferred from one to another.

2. *Specific Immunity or Acquired Immunity*

A. As the result of recovery from specific disease, seen in smallpox, measles, scarlet fever.
Lasting.

B. As the result of specific treatment artificially—

(1) By protective inoculation with virulent living infective agents; as in inoculation from a case of smallpox to a healthy person. Now illegal—too dangerous.

(2) By protective inoculation with a weakened living infective agent, the agent being weakened in various ways. Example. — Vaccinia, the agent made weak by passing through another animal. Fairly lasting—some years at least. *Preventive.*

(3) By transferring the blood serum from individuals which have *been made* immune themselves. Result, *immediate*, but *temporary*. Antitoxic. *Curative.*

There are other processes which have been used to confer immunity to disease, but the above are sufficient for the present purpose.¹

¹ It will, of course, be distinctly understood that in this chapter we are not concerned in any way with the political aspect of such questions as Vaccination or Vivisection, which aspects have nothing whatever to do with the point at issue. It matters nothing to the argument advanced whether it

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be right or wrong to use vivisectional or any other methods to obtain a curative serum, the sole point being that immunity can be produced by certain artificial methods, as well as by recovery from infectious disease. The ethical aspect of these facts is not under consideration; it is the facts themselves to which attention is directed. Immunity can be attained in various ways; that is our whole point at present.

CHAPTER VII

THE CASE OF ALCOHOLISM

PASSING now from the consideration of zymotic disease as a factor in the evolution of immunity, and omitting much additional evidence which might be adduced from other diseases, such as malaria—all of which evidence only lends more strength to our argument—we may next turn our attention to another terrible agent of elimination—Alcohol.

We are searching for universal principles, laws which act upon man in every phase of his existence, and up to the present we have studied briefly one of the agents which has obviously been an extremely potent one in his evolution, namely, disease. We find that its result to man is expressed in the laws of immunity—laws of such a wide biological significance that one cannot but suspect them of equally wide application. Whether or not that suspicion be well founded will appear after we shall have studied agencies other than disease.

We, therefore, next consider the case of narcotics, because these are agents to the effects of which many millions of human beings subject them-

selves ; and first we take alcohol, a narcotic which, as an agent of the elimination of certain individuals, is quite as potent and just as much selective as any infectious disease. Just as in the sphere of disease, so here, certain individuals survive while others perish. But there is an all-important difference in the two cases. In the case of disease we have already seen in the previous chapter that the qualities which determine survival or death are either inborn, or acquired, *physical* characteristics. That is to say, those who survived the infection of measles, for example, were those in whose bodies and tissues there was some physiological or chemical process possible, in virtue of which they were the survivors. "But the choice made by narcotics is determined primarily not by the physical but by the mental character of the person selected. The man who dies from alcohol or opium is not necessarily one who is especially liable to be injured physically by excessive indulgence. He is always one to whom the sensations produced by excessive drinking are especially delightful. His drinking habits, and, therefore, his elimination, are determined, not by peculiarities of body, but by peculiarities of mind." ¹

Once more, the utter impossibility of drawing a hard-and-fast line between the physical and the non-physical or mental is obvious ; we can only use the terms in their ordinary acceptation.

¹ 'Principles of Heredity.' Dr Archdall Reid, p. 189.

The writer just quoted points out that there are at least three motives which induce men to take alcohol. "In the first place men drink to satisfy *thirst*. When the percentage of water, an organic constituent of their bodies, falls below the normal, they seek instinctively to supply the deficiency. When possible they flavour the water in various ways, as by tea, coffee, or alcohol. Secondly, men drink to gratify *taste*. They seek to produce a pleasant sensation by exciting the peripheral nerve-endings in the mouth. Their motives are then precisely the same as those which animate a girl who consumes a chocolate-cream. Thirdly, men drink to induce those peculiar feelings, those peculiar frames of mind, which arise when alcohol, circulating in greater or lesser quantities in the blood, acts directly on the central nervous system.

"Clearly, these three motives are entirely distinct; and upon examination it will be found that they impel to the consumption of three distinct classes of beverages by three distinct classes of individuals. For the thirsty man the *water* is the main consideration; he takes the alcohol merely to improve the taste of his drink. For the connoisseur the *flavour* is the main consideration; the water and the alcohol are used merely to improve the flavour. For the toper the *cerebral effect* is the main object; so long as his beverage contains alcohol he will drink even when he is not thirsty, and when the flavour of his beverage is disagreeable."

"Of course the three motives may, and often do, co-exist in the same individual. A man may seek at one and the same time to satisfy his thirst, to gratify his taste, and to become drunk. Or in the beginning of his drinking career he may drink alcoholic beverages mainly to satisfy his thirst, later to gratify his palate, and lastly for the sake of intoxication. But the fact remains that the three motives are quite distinct, and that in the mind of any given drinker one or other of them usually predominates, and impels him, when he has a choice, to choose a certain class of beverage. The thirsty man chooses diluted beverages. The man who seeks to gratify his palate chooses especially well-flavoured beverages. The toper, when he has a choice, chooses sufficiently strong beverages, though, of course, he prefers them well-flavoured if possible. By themselves, thirst and taste are never the causes of excessive drinking. Instinct warns the thirsty man when he has had a sufficiency of water. It takes from him his desire. A glass or two of wine, like an ounce or two of chocolate, tends, also, to cloy the palate of the connoisseur. In effect, the drunkard is always one to whom the mental effects of alcohol acting directly on the brain is delightful. *Our concern is with him alone.*"

It might be quite possible to add other motives to the list of the three above enumerated, and some there may be who would be inclined to question whether the mental effects of alcohol acting

directly on the brain are invariably a *delight* to the drunkard ; but of this there can be no question, that, delightful or not, they are effects to which the drinker becomes more and more susceptible up to a point—effects the desire for which he becomes less and less *able to control*. No matter how he suffer afterwards, he is no sooner free from them, than once more he is consumed with the desire for their renewal—which is very nearly saying that to him they are a delight. At any rate, they are a something which he will not, or *cannot*, do without ; they constitute a state of mind which becomes to him a necessity.

Now the correct analysis of this question is of such great importance to the development of our argument in favour of the universal application of the laws of immunity to every phase of man's existence, that we make no apology for quoting here at length the following passages from Dr Archdall Reid's book, passages which are written from an entirely different standpoint, and with the view of proving quite another contention. That very fact makes them all the more valuable to us here. The author of "The Principles of Heredity," then, goes on to say (page 192) :—

"This mental effect varies in quantity and quality with the amount of alcohol drunk, and with the individual who drinks it. A given amount of alcohol, which produces deep intoxication in one individual, may leave another comparatively unaffected, or it may render one person morose,

a second genial, a third merely stupid and sleepy, and so forth. Probably most people are capable of enjoying some quantity of alcohol; that is, some quantity of alcohol, when circulating in the blood, awakens pleasant sensations in the minds of most people. But just as people *vary* as regards *every other physical and mental character*, so they vary as regards the quantity of alcohol they enjoy most, and in the degree of their enjoyment of it. A very little alcohol easily satisfies some people, and their craving for even that small quantity *may be very weak*. Others desire a large quantity, and their longing for it may be *the strongest emotion of which they are capable*.

"It is necessary to insist on this distinction. In most writings on the subject it is assumed that drunkards and temperate men differ mainly as regards their powers of self-control. The assumption is very flattering to the self-esteem of those who make it, but it is certainly erroneous, as any moderate drinker may ascertain at the cost of a little observation and introspection. What is it that keeps him temperate? Self-control! But self-control implies something controlled in the self—the craving for drunkenness. All drunkards have the craving very strongly developed. If then the mental difference between the drunkard and the moderate man lies mainly in their powers of self-control, we must assume that all moderate men pass through life vehemently

longing for intoxication, but strenuously resisting the craving for it. The assumption is a monstrous one. Let the reader, if he be a moderate drinker, judge from his own case. Is he the victim of this tremendous craving? Do the majority of his intimates manifest it?

"Many drunkards are men of strong wills, and many of them have a strong desire to be sober. They fail because their craving for intoxication is yet stronger. On the other hand, many sober men are of weak will-power. They are temperate because their desire for excessive indulgence is yet weaker. Many men—"men of pleasure," for instance—devote their lives to self-indulgence; but this form of self-indulgence *does not appeal* to them. It is unbelievable that such people spend their lives valiantly resisting exceedingly urgent temptation. No doubt many moderate men exercise a certain amount of self-control. Warned by unpleasant experience they drink less than they would otherwise do. They are easily able to exercise the necessary restraint, because they are not driven by their desires as by a tempest. It is this comparatively small amount of self-control exercised by people of this class that has given rise to the fiction that a man is sober or drunken mainly because he does, or does not, exercise self-control.

"The truth is that most men and women who drink at all, and can afford it, take alcohol more in proportion to their desires than in proportion to

their lack of self-control. One may observe this every day at dinner. As a rule, the people one meets there are manifestly not under the influence of strong temptation. They take as much alcohol as they are inclined for. More would be unpleasant, or at least not very pleasant, to them. Indeed *it is hardly possible for a man who is strongly tempted by alcohol* to be a moderate drinker. The human will is not strong enough to resist a passion so overmastering when it is continually fed by small indulgences. Such men must, as a rule, be drunkards or total abstainers.

"It is not intended to deny the merits of self-control. Beyond doubt many a man is now an abstainer because he had the resolution and courage to exercise self-control. Indeed it is probable that most men, even habitual drunkards, exercise some restraint and drink less than they otherwise would. The essential thing is, not that men do not exercise restraint, but that different men are so constituted mentally that they differ vastly in the strength of their desires, in the strength of their cravings for intoxication, and that, as a rule, drinkers are drunken or temperate, not *mainly* because they exercise less or more self-control, but mainly because *they are more or less tempted*. Abstainers form a class by themselves; they are not exposed to the same extent to what may become very urgent temptation. Of drinkers, it is certain that *most if not all* moderate men are so constituted that their

desires are comparatively weak. It is equally certain that all drunkards are so constituted that their desires are very strong. No man, unless he were strongly tempted, would systematically and regularly take doses of poison, which, besides entailing upon him a multitude of other evil consequences, make him feel very ill a few hours afterwards.

" Within limits, the passion for alcohol grows with indulgence. But here, again, men vary. The growth is more rapid and extensive in some individuals than in others. A course of indulgence which leaves one man almost indifferent to the charm of drink, will fill another with furious desires. After a more or less prolonged experience of alcohol, many men learn fairly accurately the amount of alcohol which will produce the mental state that is most pleasant to them. With such men, who constitute the majority of moderate drinkers, the growth of the craving does not continue indefinitely. Having learned the limit, they are able to stay within it without much effort or difficulty. Other men never reach the limit of growth. Their tendency is always to drink to deep intoxication ; to drink to the point of coma. Between the two extremes lie all shades of drinkers.

" Men differ, therefore, in their susceptibility to the charm of alcohol, and, as a rule, indulge in it in proportion to their desires. As might reasonably be expected, those who are most tempted

succumb, on the average, most and oftenest to temptation."

Thus far Dr Archdall Reid in the fifteenth chapter of his most remarkable and thought-inspiring book. What does all this mean to us? What is its bearing in the making of a man or a race?

It is surely unnecessary to labour to prove here the great mortality from the indulgence in alcohol. In many it is a physical disease, the tendency to which is inherited; in others, it is a mental or moral disease. The fact that it constitutes a large factor in the mortality of the country has been proclaimed from every platform, sociological, religious, political, and scientific; and the statistics of insurance companies bear their eloquent testimony. If we include the infant mortality due to the carelessness and ignorance and neglect of drunken parents—an indirect effect, then the number of individuals eliminated by alcohol must be tremendous, probably greater than that from tuberculosis. Moreover, the elimination as in the case of infective disease, is stringently selective, leaving comparatively untouched those to whom alcoholic indulgence presents no charm, and eliminating with ruthless hand those who by inherited tendency or acquired susceptibility fall beneath its powerful sway.

Here and there an individual is encountered who has passed through the terrible experience and has come out, after a longer or shorter period,

immune. He is as a man who has been at death's door from smallpox, but has escaped; and so awful has been the experience that he is never again a victim. Such cases do occur (the present writer could point to several), but they are rare; and, just as the law, because of the great danger to his own life and to the community, made it illegal to give a healthy person smallpox in the hope of his recovering and acquiring immunity; so, in the case of alcohol, it is morally unjustifiable to place all and sundry under the influence of this agent, in the hope that some will survive and become immune. Too many go under in the struggle, in both cases. It is what nature has been doing for centuries, and is doing now, with results similar to those observed in other causes of elimination. Great numbers of susceptible individuals are weeded out, leaving the continuance of the race to the more resistant or less susceptible, so that alcohol, like disease, brings about in a people protective evolution. The longer any nation is exposed to its eliminating hand, the more resistant and the less drunken will that nation be. A lessened susceptibility is the only change alcoholic selection makes in the hereditary tendencies of the race. Fewer and fewer fall victims as time goes on, in contrast to the awful havoc played amongst a people to whom it is first introduced. The race becomes immune, but the susceptible individuals perish. The converse idea, namely, that alcohol causes racial

degeneration, is a popular delusion precisely analagous to that pointed out in connection with disease. Were it true, those peoples who have used alcohol longest should be the most drunken, instead of which they are the least so. It is the races to whom it comes freshly that suffer, until they have eliminated from their number the least 'fit.' "Those savages, and those only, who have had little or no experience of alcohol, Esquimaux, Red Indians, Patagonians, Terra del Fuegians, Australian Blacks—are beyond all the peoples the most drunken on earth" (Reid).

But apart from any ethnological or sociological matters of argument which may arise in this question, the plain great fact is outstanding—and it is that to which attention is directed here—that, in the case of alcohol as in that of disease, its results are in accordance with the established laws of immunity. The result to the individual is a matter of susceptibility or resisting power inborn or acquired. If sober, he is nearly always so in virtue of his comparative immunity to temptation, *i.e.* infection. More rarely he is so in virtue of having acquired immunity after recovery. The law is the same as, not analagous to, that seen elsewhere.

Stated thus, it may to some seem unfamiliar, and if so, our advice to such as doubt it is to test the truth of all the above statements and quotations as far as individuals are concerned, by carrying out an enquiry (as the writer has person-

ally done in the past few years) over a sufficiently large number of persons, putting the following questions :—

(1) Are you a sober or temperate man ?

(2) If so, is it a matter of constant hard struggle for you to maintain your sobriety ?

In the vast majority of cases, if the answer to the first question is 'Yes,' that to the second is emphatically 'No.' Let every honest and truthful reader put and answer the question to, and for himself. One individual to whom these queries were addressed writes thus :—

"The question of alcoholism has never come to me in this light before. I have always prided myself upon my sobriety and thought I must be rather a fine fellow ; and not only so, my family and friends have for years held me up as an example of a model young man, because I was never drunk. Your question shows me that I have been entirely mistaken. I realise fully now that to me alcohol is no temptation at all. I do not care for it in the least. Indeed, except in the smallest quantities, I dislike both it and its effects. Were it not for social customs I should never touch it. As it is, I take a glass of wine, or beer, or spirits, without any special enjoyment and without the least desire for excessive indulgence. On the few occasions upon which I have had more than one or two drinks I have invariably felt it a positive effort to take them, and am perfectly certain that had I gone on I should have become

ill long before I became intoxicated. I realise now, that it is no credit to me to have lived a sober life, any more than it is to my credit that I am not gouty. I am as free from the one tendency as the other. Would I could say the same for all forms of temptation ! ”

Quite so. The writer of the above has indeed no right to take any credit for his sobriety, but he has great cause to be thankful that he is one of those who are immune to this agency of selection. We commend the letter to the careful thought of our readers. The conclusions are inevitable and undoubted. The effects of alcohol upon individuals and races are entirely a matter of the laws of immunity. Inborn variations in degree of susceptibility account for the differences seen in individuals, supplemented by the accident of social surroundings and the opportunities afforded for indulgence. Those who remain sober and survive, are those who have inborn in them a high degree of resistance. Those who succumb are the unfit. They become eliminated in time. Thus does nature produce a temperate race. “ It is an absolute rule to which there is no exception, that, given an abundant supply of alcohol, every race is temperate strictly in proportion to its vast experience of the poison ” (Reid). It could not be otherwise with such a potent agent of selection.¹

¹ It is no part of our purpose to discuss the practical methods of dealing with the national drink question ; but it

Our contention is, that the living of the greatest life is a matter of conformity and obedience to the laws of immunity. We have in the early part of this book made an analysis of the various component parts of a man, one of those parts being what is usually termed his physical nature. It is that part of him that we are now examining with a view to ascertaining what laws there are, if any, which are universally operative in that sphere in accordance with which he is what we find him to be. What constitutes the greatest life *physically*? How can a man attain physical perfection, or what is it that produces him physically, more perfect than his fellows? We have considered the case of disease, in the first place, as being a widespread agent of the selection of the non-perfect or unfit, and we have found that it is in accordance with the laws of immunity that individuals and races are what they are. Now, secondly, we have examined the case of alcohol—another great agent of selection amongst the physically unfit or imperfect, and here again we see plainly that it is man's immunity or susceptibility which makes or mars him. The pro-

may be pointed out in passing that the great mortality from this agent could be stamped out practically in one generation by rendering it a penal offence, subject to life imprisonment, for a confirmed drunkard to have children. As it is, the temperance methods adopted do their best to put him in a position to bring forth as many others with similar tendencies as he can.

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cesses are the same in either case ; the laws governing them are identical. We shall continue the investigation on these lines, taking our facts from independent sources, passing gradually from the more purely physical sphere to the spheres of the mental and spiritual.

CHAPTER VIII

THE CASE OF OPIUM

TURNING next to the consideration of narcotics other than alcohol, we may note the case of opium, concerning which the facts are very similar and need not detain us so long. Once more these facts may be taken from an authoritative sociological source.

“ This narcotic has been used extensively in India for several centuries. It was introduced by the English into China about two centuries ago. Quite recently the Chinese have taken it to Burma, to various Polynesian islands, and to Australia. There is no evidence that the use of opium has caused any race to deteriorate. Indeed, it happens that the finest races in India are the most addicted to its use. According to the evidence given to the late Royal Commission on Opium, the natives of India never or very rarely take it to excess. When first introduced into China it was the cause of a large mortality ; but to-day most Chinamen, especially in the littoral provinces, take it in great moderation. On the other hand Burmans, Polynesians, and Australian natives, take opium in such excess and perish of it in such numbers

that their European governors are obliged to forbid the drug to them, though the use of it is permitted to foreign immigrants to their countries. In exactly the same way alcohol is forbidden to Australasians and Red Indians in places where it is permitted to white men.

"Immensely increased doses (of opium) can be tolerated by the habitual user, but, if he belong to a race which has had no previous experience of opium, he generally desires to reproduce the intoxication he felt on the first occasion of using it. Opium, like measles, is therefore the cause of a large mortality. The resulting evolution tends to render the race "immune," so that it no longer desires opium in such quantities as to produce intoxication. It would appear, therefore, that the power of tolerating increased quantities is a great advantage. The race does not start from the scratch. It evolves immunity much more quickly and easily than in the case of alcohol. After an experience of a few hundred years the natives of India appear quite "immune." After two centuries the Chinese have evolved far towards immunity. But a disastrous experience of thousands of years has not rendered North Europeans fully "immune" to alcohol.

"It seems then, both as regards narcotics and diseases, that the ease with which the race evolves resisting power bears a close relation to the ease with which the individual is able to acquire

personal immunity" (Reid). It is perfectly plain that the diseases which are the most potent and death-dealing, are those against which no immunity can be gained, or gained only after long periods and with difficulty—as in the case of malaria.

Reference may be made here to the case of another narcotic, namely, tobacco, because this is an instance of a narcotic against which a complete immunity can be acquired without much difficulty. Judged by the powerful effects of nicotine upon an individual who is indulging in the weed for the first time, the impression would be gained that those results would be disastrous if the habit were persevered with. To the beginner the narcotic is very poisonous. No one would contract the smoking habit were the feelings and results of the first attempt renewed with every succeeding instance of indulgence. But, as a matter of fact these feelings of nausea and depression, together with the emetic effects, do not manifest themselves for long, and the smoker very rapidly acquires such an immunity to them that he is able to indulge in very largely increased doses, without running any risk of the extremely unpleasant consequences of the early experience. In this case, be it noted, the poisonous effects are not what the smoker desires. Smokers do not seek the intoxicating results of nicotine which they first experienced, and as a result there is no elimination resulting from the habit. It is not

therefore an agent of selection, because its *poisonous* effects do not create a craving. Every one smokes in moderation who smokes at all, in the sense that they do not indulge to the point of profound intoxication as they do in alcohol or in opium. "The mortality caused by tobacco is so small as to be negligible. As a consequence—and in this it resembles chickenpox—no evolution results from racial experience of it. Races who have long used it desire it in quantities as large as races that have had no experience of it. Opium lies midway between alcohol and tobacco" (Reid).

Once more we see that in all these cases the differences in individuals are to be accounted for on the lines of immunity. Individuals vary because of their varying degrees of susceptibility and immunity to these narcotic effects. What will upset one man is harmless to another—his susceptibility is less. In some there can be acquired a degree of toleration, accustomedness, immunity, which is immensely beyond that to which others can attain; and the prudent man is he who knows his own limit and keeps strictly within it. In any case, it is undoubted that, by long practice and indulgence or experience, the normal individual can become to a very large extent immune. This is another case in which physical characters are therefore shown to depend upon the acquisition of immunity. The result depends upon this, and this alone. Whether the

result is worth while attaining, right or wrong, moral or immoral, is not our concern here ; we are studying processes as such. If a man wishes to be able to resist the effects of narcotics, therefore, he must put himself under their influence, gradually increasing the amount used until he establishes within himself a toleration, an immunity to their toxic effects. Only in this way can he hope to be able to indulge in anything but the smallest quantity. It is no use trying to become a heavy smoker by indulging in a mild cigarette once a week ; the habit must be practised daily, until it is thoroughly established and immunity secured. If it be interjected by some one that the result is an undesirable one, we say again—at the risk of wearisome iteration—that we are not concerned with that point. Our point is that, desirable or undesirable, the process involved is as stated, and further that, no matter whether the habit under consideration be desirable or otherwise, the *process of acquiring it is identical*—a matter of acquiring a toleration, of becoming immune to some agency or other, or of becoming more susceptible to some agency, as the case may be. We have selected the examples set forth, simply because the process is easier to follow in such cases, but, as we progress, it is hoped to show that the same identical laws control man's making, no matter what the nature of the agency under notice. The acquisition of a good habit, no less than that of a bad one, is

a process of precisely the same nature ; one must become tolerant of it, accustomed to it, so that even if it were at first irksome it soon is no longer so, but a possible delight and a fixed habit. The ethical aspect is in the *choice* of habits.

CHAPTER IX

THE CASE OF VARIOUS PHYSICAL AGENCIES

BEFORE we leave the physical aspect of the making of a man, it may be well to glance very briefly at a number of agencies which act upon him in this sphere, and play their part in the production of his total individuality, in order to show that the principles we are insisting upon are really of the universal nature suggested. A few such agencies may be selected almost at random, and their results noted, after which the reader should be able to follow out for himself the process in the case of any imaginable physical agent whatsoever.

The question before us is ever the same. What makes the individual the man we see him to be? How may he become what he desires to be or what he ought to be? The answer to the latter question is, we hold, to be found in the answer to the former. No two people are quite alike, and we are coming to the conclusion that in the physical sphere, at any rate, it is because of their varying susceptibilities and capacities for gaining immunity.

Take a few every-day commonplace agencies as examples.

I. FOOD AND ARTICLES OF DIET

Here is a physical agency which is a necessity to the making of a man, and yet no two persons have exactly the same food-characteristics—tastes, we term them. Certain food-capacities are common to all at one period or other of life. All young mammals feed upon milk, even though later in life they may dislike it. All animals demand water in one form or another in order to live, but outside these simple necessities the range of variations in tastes, susceptibilities and immunities, is immense. In very many cases food-habits are just as much acquired, and often with as much difficulty, as are habits such as drinking alcohol and smoking tobacco. Indeed, we use that very word of many food-habits; we speak of them as “acquired tastes” for this or that. In some cases it is a natural product or a fruit, the tomato, for example, for which the food-habit is acquired and is, by some persons, not acquired at all. Of a given number of persons who are offered such a food for the first time, some will dislike it immensely, others will put up with it, others will enjoy it. Some can become tolerant of the taste, others cannot. To some the acquisition of the habit is a matter of repeated effort; others are most susceptible, and indulge to the extreme. There is something in the individual which renders him susceptible or immune to this particular agency, just as there is in the case of

alcohol. The fact that it does not make much difference to him whether he is susceptible or not, is not the point ; if it had been true that the tomato was a factor in causing cancer—as was wildly suggested only a few years ago, without any grounds for the suggestion, it would have made a great difference. As it is, it merely exemplifies one characteristic in the personality. The point is, that in the case of foods men vary ; and if there be any particular reason why a certain food should become an article of diet for some individual, any initial dislike for that food can only be got rid of by gradually establishing a tolerance, an immunity to the unpleasant effects or prejudices. And the effort to do this, if maintained, would possibly result in *an entire change of physical taste and mental attitude*. It is unnecessary to multiply instances ; many will occur readily to the mind of the reader, who probably in his own person could furnish some instance of the process under consideration.

2. AIR AND VENTILATION

Here again is an agency—fresh air—a certain quantity of which is essential for the very existence of a man. But individuals vary immensely in the amount required to keep them in good physical condition ; and in this instance, too, susceptibilities and acquired habits are very marked. Our own society in the last generation

has shown a remarkable change of habits in this very matter. Almost every one nowadays is 'converted' to the gospel of fresh air—doubtless to the good of the community at large, but greatly to the discomfort and, at times, even to the danger of the older folks still living, who were not brought up (*i.e.* had not become 'tolerant')—to sit and sleep in rooms with all the windows wide open—summer and winter—with the thermometer near freezing point. It is the simple truth that many people 'cannot stand' the free ventilation which is nowadays considered the only possible method of living a healthy life. But, just as in all other instances, the majority of people can acquire the habit of indulging in more fresh air than they have been accustomed to, and, as in the case of many other habits, it becomes a necessity, and sometimes a nuisance. It is occasionally associated with an immunity to the susceptibilities of the weak and delicate which is a striking example of the processes we have been describing. In itself it is an example of the acquiring of a good habit—the methods of acquisition being governed by identically the same laws as the acquisition of the alcohol habit, the opium habit, or the tobacco habit. The morality or value of the habit makes no difference in the method of gaining it.

3. EXERCISE AND PHYSICAL EXERTION

Here is another physical agency which, in some degree or other, is a necessity for all healthy life, and especially for growth. But individuals vary immensely in the amount they require or enjoy, and can establish a toleration in either direction within very wide limits. In some people lack of a considerable amount of exercise soon produces bad effects, whilst others can keep in excellent health and vigour upon a minimum quantity. Some are practically immune to any ill effects which follow upon deficient exercise; others are extremely susceptible to those ill effects. Exactly as in other physical agencies, the kind and degree of the habit or indulgence can be acquired, enjoyed, abused, or neglected. Within limits, the individual can become susceptible or immune just as he chooses to make the effort.

4. PHYSICAL WORK

Here, again, we see at once that the capacity for physical labour is essentially a matter of toleration, of being immune to fatigue or susceptible to it. We are not now speaking of the *desire* to labour physically—which is a different thing—but of the *capacity* to do so. The extreme susceptibility to the effects of fatigue are familiar to all those who habitually over-exert themselves in this way during an annual holiday, after months

of sedentary occupation. The first few efforts at physical labour leave great exhaustion, and occasionally do a good deal of harm. But, as the days go on, the individual can do more and more in this direction ; he becomes ' tolerant,' immune to fatigue. He is no longer susceptible to the exhausting effects of fatigue-products in his system ; he becomes able to eliminate them as they are formed, and within certain limits can extend his capacity for labour to an extent which surprises him. This is, in fact, what is meant by ' being in training,' in the physical sense. Training is the establishment of a condition of immunity to fatigue. It is an immunity possessed in a high degree by the professional or other athlete and by the manual labourer. It can be attained either for the whole body, as is necessary, for example, for a footballer ; or it can be attained for a particular group of muscles, such as are brought into play in many games and special physical exercises. In either case, what is aimed at is the acquirement of a condition of immunity, general or local—a process governed by laws identical to those studied in the sphere of disease. In this direction again, then, the attaining of the physical perfection—the greatest physical life—is a matter of rendering the individual immune to agencies which hinder that attainment.

5. HEAT, COLD, AND CLIMATE

Lastly, in this connection, we may note the factors connected with temperature. It is the same story repeated. All are susceptible in varying degrees to the action on their physical bodies of different temperatures. Below a certain minimum, and above a certain maximum, life cannot exist. Between the two extremes there is an optimum temperature at which any organism can perform its vital functions to the best advantage. Warm-blooded animals, however, possess a heat-regulating mechanism controlled by the nervous system, by means of which they can adapt themselves to considerable ranges of heat and cold. But this can be best done if the change be gradually brought about, so that a gradual tolerance be established. A sudden transference from the polar regions to the equator might be fraught with danger ; but, by giving the body a chance to accommodate itself to the changing temperature by moving more slowly from the one to the other, a human being is able to stand both. He can become immune to a great heat or a great cold, extremes to which in the first instance he may have been extremely susceptible. In a recent tour of English cricketers to Australia, the failure of the English team to do themselves justice at Adelaide was attributed to the intense heat prevailing there, to which the colonial players were said to be more or less

immune, from their residence in Australia. Both teams were men of the same race ; but the one was more susceptible to the physical agency of heat than the other. The physically perfect man, for a contest under those special conditions, would be he who was immune to the heat, an immunity which could be acquired by a sufficiently long experience of the conditions.

The converse is, of course, equally obvious and true. The successful arctic or antarctic explorer will be he who is successful in establishing an immunity to the severity of the cold ; indeed, if he be unable to do this he will perish. As a matter of fact it is those races who inhabit temperate zones who are most capable of acquiring this immunity to extremes of climatic temperatures. Probably the Esquimaux would fail as explorers in tropical Africa, as would the negro inhabitants of that region in the Polar circles. The European has evolved a capacity of adapting himself to these, or less variations—a capacity, in other words, of acquiring immunity to them. The vagaries of his own climate have compelled him to do so.

We need not pursue physical processes further. Unless we have utterly failed to make our argument clear, the reader must realise that physical perfection depends upon the attainment of physical immunity. To conclude this part of our subject, look once again at the definitions given on a previous page (page 102), and see if what we

have ascertained is in accordance with what was there defined. It will be convenient to repeat it here.

IMMUNITY is that condition in virtue of which there is absolute or partial freedom from, or capacity to resist, certain agencies.

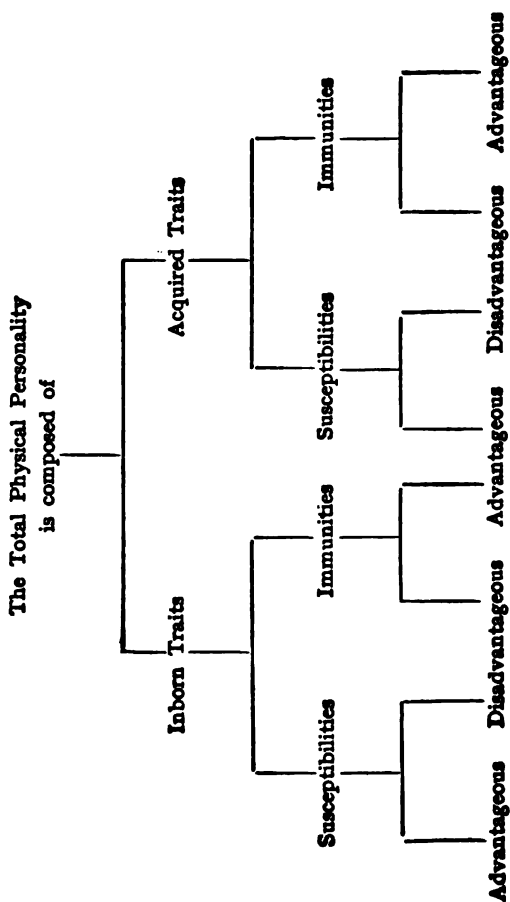
PHYSICAL IMMUNITY is that condition of a race or an individual in virtue of which agencies destructive to life can be resisted absolutely or partially.

THE GREATEST LIFE, physically, therefore, is to be attained only by him who, either by inborn capacity or acquired traits, is highly immune to those agencies which tend to impair his vital functions or destroy his existence.

As far as physical nature is concerned, an individual is simply the sum total of his physical susceptibilities and immunities.

If the laws of immunity are all-pervading, we shall find that their operation is as manifest in the mental sphere as in that already considered, and to the mental sphere we next devote our attention.

DIAGRAMMATIC SCHEME OF A PHYSICAL INDIVIDUALITY



CHAPTER X

THE MAKING OF MAN'S MIND

So far, we have been considering the making of a man from the point of view of his physical individuality. Our effort has been to show that man has become what he is—either as a species, a race, or a personality—in virtue of his having evolved certain physical characters together with the capacity for acquiring others. Physically he is the sum total of these characters, or capacities, or the lack of them. In this physical part of himself the *inborn* traits—capacities for acquisition, susceptibilities and immunities—largely predominate. His physical acquirements are comparatively limited and fairly rigidly defined. Their range can be foretold with considerable accuracy, and we know that physically, beyond certain limits, he cannot go.

It is impossible to draw a hard and fast line of distinction between these physical characters and those we term mental or moral, because the latter evidently depend upon the former; but, for descriptive purposes, the colloquial division may be retained with advantage, and the mental traits considered to be those which appertain to

that part of man which we call 'the mind.' In this category, then, comes the intellect or intelligence: that part of a man which conceives, judges, reasons, wills, imagines, remembers, understands, reflects, thinks, and doubts. The mind or intelligent principle in man is made a possibility by the highly developed state of his brain and nervous system.

The mental characters are all those that pertain to this mind—the intellectual faculties, processes, and capacities, manifested through and by means of the physical organ of the brain, but conveniently regarded as being apart from the ordinary physical characteristics. The real justification for keeping them so apart in our study of them is to be found in our present ignorance of the nature of nerve and brain energy. Were this *demonstrably* molecular, chemical, or electrical, mental processes would have to be described accordingly. But the essential nature of nerve energy and motion has hitherto eluded discovery. The *exact* nature of the changes which occur in a brain cell when it receives an impression or conceives an idea is not known. The immediate physical basis of mental life is in the cerebral cortex, that part of the central nervous system to which sensory impulses are transmitted by afferent nerves, giving rise to all the varied sensations. Further, all voluntary initiation of movement takes its origin in the cerebral cortex, and there is good reason to believe

that the brain and the mind are absolutely interdependent in their development. The development of the brain not only keeps up to, but is also that which determines the advance of the mind.

If a very condensed classification of mental characteristics be desired, that used by many psychologists may conveniently be adopted. It describes all the mental phenomena as coming under one of three categories. These are grouped as follows :—

- (1) INTELLECTUAL OPERATIONS, *e.g.* Observing, remembering, judging, etc.
- (2) FEELING, *e.g.* States of fear, hope, remorse, pleasure, pain, etc.
- (3) VOLITION, *e.g.* Purposive acts, willing, deliberating, etc.

"These three categories have been regarded by most modern psychologists as indicating the primary functions or fundamental modes of activity of mind. All that the mind does can be brought under one or more of the three following heads: (a) Knowing, Cognition, or Intellection; (b) Feeling, States of Pleasure or Pain, or Effective States; and (c) Willing, Conation, or Active Processes. Our mental life may thus be said to be composed of ever-varied combinations of these functional activities as its ultimate factors or constituent elements" (Sully).

As to the relationship of these three modes of mental functioning, it is well to note that no one

phase can be operating in any great intensity without tending to eclipse, temporarily at least, the other two phases. In precisely the same way, in the physical sphere, a man does not fall under the infection of small-pox and scarlet fever at one and the same time. One will predominate over the other, and, if a mixed infection be experimentally inoculated into an animal, the resulting disease is not a mixture of all the infective agents but one disease which predominates over the others. The bacteriologist, indeed, uses this fact in order to separate different microbes from each other. At the same time, there is the closest interaction and interdependence between the three mental groups. Intellectual processes produce emotions; emotions influence thought; both stimulate to purposive action, which, in its turn, controls feeling and ideation.

Looked at from the point of view of recent psychic research, mind is regarded as being dual or twofold. Thus :—

1. "The OBJECTIVE MIND takes cognisance of the objective world. Its media of observation are the five physical senses. It is the outgrowth of man's physical necessities. It is his guide in his struggle with his material environment. Its highest function is that of reasoning."

2. "The SUBJECTIVE MIND takes cognisance of its environment by means independent of the physical senses. It perceives by intuition. It is the seat of the emotions, and the storehouse

of memory. It performs its highest functions when the objective senses are in abeyance. In a word, it is that intelligence which makes itself manifest in a hypnotic subject when he is in a state of somnambulism" (Hudson).

The reader will at once recognise that this method of regarding the mind is merely another way of grouping mental phenomena. It is a method which is of great value in elucidating the phenomena of 'suggestion'; but the assertion that the subjective mind is independent of the physical senses is, of course, quite gratuitous.¹

Any detailed statement of psychology is, of course, quite foreign to a purpose which in this part of our task is the ascertaining of how the individual becomes mentally what he is. That known, the assumption is that the explanation will point to the solution of the question, How to attain the greatest mental life.

Obviously, this problem demands for its solution a clear conception of what is mentally inborn and what is mentally acquired, just as in our inquiry into the physical making of man we had to ascertain what he owed to inheritance and what to acquisition. Only in that way can we realise how much man can do for himself or have done for him. The true understanding of this matter lies at the very foundation of all real

¹ The terms 'objective' and 'subjective' correspond to the terms 'supraliminal' and 'subliminal' used by other writers on psychical research.

educational, political, and religious progress. Without such knowledge the statesman, the politician, and the reformer, work in the dark.

The very first point to be cleared up is the qualitative and quantitative estimate as to how much of the mind of a man is made up of what is termed 'Instinct' and how much of 'Reason'—because instincts are not amenable to reason. The biological inquiry of whether reason was evolved from instinct, or whether instinct is lapsed intelligence, or that neither view is correct, need not trouble us, so long as we know in what sense the two terms are used.

They may be defined thus :—

"INSTINCT is that faculty which is concerned in the adaptation of means to ends *by virtue of inborn inherited* mental impulses and capacities for action.

"REASON is that faculty which is concerned in the adaptation of means to ends *by virtue of acquired non-inherited* mental impulses and capacities for action" (Reid).

It is chiefly in the enormous difference between man and the lower animals in these two kinds of mental processes, that man's mind differs from theirs. Man acts chiefly by reason—faulty or otherwise, the lower animals chiefly by instinct. It is unnecessary to treat fully of animal instincts ; but it is most instructive to observe how little man is able to do for himself by instinct, and how much he may acquire by reason. That is why

there is always a greatest life which he may strive to lead. The great contrast between the two is well brought out in the following passage :—

“ Not only the instinctive impulse (the instinct properly so-called) but also the power of performing the instinctive action which results from the impulse, is usually inborn ; whereas, not only the rational impulse, but the power of giving effect to it is acquired. For example, the caterpillar builds as a place of shelter a cocoon, and a man a house. The caterpillar acts on an inborn mental impulse. He has had no previous knowledge of cocoons and can have no idea of the purposes they serve. Very probably he has never seen one before. But he acts as if he knew all about the uses of cocoons and the proper method of building them. Driven by his inborn impulse he sets to work at the fit time and place. Notwithstanding the total lack of all practice, his bodily parts act in exact co-ordination. Apparently his work in its beginnings is as perfect as in its endings. Unaided by memory, by learning, by practice, by acquired mental and physical traits, he rears an elaborate structure precisely suited to his needs. The man builds his house in quite a different fashion. He has no instinctive impulse to build, and no inborn dexterity ; but he has a clear idea of what he wants. Memory furnishes him with his impulse and his knowledge ; practice confers upon him his dexterity. If a caterpillar observed other cater-

pillars working, and noted how, and inferred why, they builded, and concluded finally that it would be beneficial if he did the like, his action would be rational. He would depend upon his memory, on his acquired mental traits, on his power of using past experience for the guidance of future conduct. In effect, he would think, 'Such and such actions were beneficial for such and such *reasons* to other caterpillars; let me therefore imitate them.' Such a caterpillar would work clumsily at first, but with greater skill later. If the man, on the other hand, was impelled to build his house by an inborn mental impulse, and wrought perfectly without previous knowledge, practice, and forethought, both his impulse and his power of giving effect to it would be instinctive. The distinction between instinct, and what we have termed reason, then, is clear" (Reid).

Instincts, we repeat, depend upon inborn mental traits; reason depends upon acquired mental characters. How much of man's mind is instinctive and how much rational? The answer to that question will show how far it is possible for man to attain to mental greatness, and how far he is restricted in this direction.

In this enquiry we are brought face to face at once with the extraordinary paucity of human instincts as compared with those of the lower animals. The human infant at birth is the most helpless creature living and, without prompt

attention from the more *experienced* of its species, would invariably perish. It has the instinct of hunger, and the desire for food, but is without the instinct to enable it to find or obtain that food for itself. It has the instinct for rest and sleep, and will instinctively cry when in pain or discomfort. That is practically all that it can do for itself by instinct. What a contrast to, say, a newly hatched chicken or the caterpillar previously referred to! Later on, a few other instincts become apparent, of which the most important for the development of the child are the instincts of *curiosity* and the *imitative* instinct. It is chiefly by the exercise of these two that the infant mind grows. Then there is the sporting instinct, the love of play—very important for the due development of the body especially; and to these still later may be added the sexual instinct—for the preservation of the race, and the parental instinct—far stronger in females than in males. Indeed, in many human males it is probable that the parental instinct is absent and that the emotion which takes its place is a purely acquired mental character.

Contrast this meagre list of mental attainments with the mind of a fully developed educated adult! The difference is almost inconceivable. Herein lies the superiority of man as a species. The adult hen does not differ in many or great respects mentally from the chicken of a week old; but the mind of the human infant and

that of the human adult are as the poles asunder. Why? Because man has but few instincts, and, instead, has the most marvellous capacity of acquiring mental characters that living creatures exhibit. He is essentially the educable animal. Hence the vital importance of the method adopted in teaching him. At birth he has everything to learn; but he can learn anything.

The one great outstanding characteristic of the human mind—that which makes it possible for man to live the greatest life—is this fundamental fact, that at birth his mind is almost a blank sheet, upon which may be written—anything! In contrast to his physical inborn characters which are well-defined and capable of but limited extension and adaptation, his mental capacities are apparently unlimited; for who shall set a limit to the mind of man! Just think, for a moment, of all that is acquired by the mind of a child in the first few years of life. At almost every moment it is receiving some new impression from without, which is stored up carefully in the memory for future use. Truly the “little children are the intellectual giants” (Reid). There is nothing in the mental sphere of the full-grown man to compare with the marvellous receptivity of the young mind.

This contrast between the powers of acquisition possessed by the body as opposed to the mind is all-important in our enquiry. Dr Archdall Reid has recognised its supreme importance more than

any other contemporary writer ; and in this connection we would quote the following passages from this brilliant thinker :—

“ No one will doubt that a Scandinavian and an African Bushman, reared as members of the same household, and therefore under very similar conditions, would present immense physical contrasts. The structures of both would grow under the influence of use, and all this growth would be an acquirement ; but the direction of the growth and the extent of it would be rigidly limited by their inborn tendencies. But while the kind and the amount of development which may result from *use*, in the hand or other physical structures, is rigidly limited, a man is capable of *learning to use* his hand in any one of a thousand or million different ways. Thus he may acquire dexterity as an etcher, a painter, a writer, a watchmaker, a marksman, a blacksmith, a surgeon, and so on in endless variety. But all these acquirements are *mental, not physical*. We see then, by contrasting the range of acquirements which experience in using a hand may produce in the mind, how immensely greater is the power of making acquirements possessed by the latter. Moreover manual dexterities form only a microscopical part of the total that a man's mind may, and always does, acquire. The artist's skill in guiding his hand is as naught compared to the rest of his mental achievements. As naught to the rest is the skilful penmanship of the historian, the

poet, or the philosopher. Who can even name a manual dexterity which underlies the success of the statesman or the general ! The real adaptability, the real plasticity of man, therefore, lies in his mind, not in his body. It is in the former that he is pre-eminent above lower animals. His body is like a fragment of flint which some rude savage may chip and change a little. His mind is like a mass of clay or metal which a skilful workman may mould into ten thousand shapes. Mentally, much more than physically, man is the product of his immediate surroundings ; whereas physically, much more than mentally, he is the product of a long-extended past.

" It is often argued that since men differ greatly as regards their innate physical characters, they must differ as greatly as regards their inborn mental characters. Doubtless this is true. We know, for instance, that of two men similarly trained, one may vastly excel the other as mathematician, musician, poet, artist, philosopher, or as commander. But, when it is further argued that the mental differences which we perceive in men are commonly innate in the same sense as their physical differences, the error is obvious. The narrowness of the range of possible physical acquirements and the width of the range of possible mental acquirements are not taken into account. The extreme ductility of the mind as compared to the body is forgotten. Beyond a few deferred instincts which have been evolved

by natural selection by reason of their utility, and which therefore are common to the whole species, the entire mental difference between the infant and the adult is due to the acquirements made by the latter. On the whole, instinct makes the individuals of a species alike, not different. The mental differences between adults, then, are due, first to differences in innate capacity, in innate power of making and utilising acquirements, and secondly, and to a much greater extent, to differences in the acquirements that are made by virtue of this capacity. The nature of the mental acquirements depends almost wholly upon the individual's peculiar environment—on his experiences, his opportunities for learning."

The exact application of these biological truths is of such immense importance in the understanding of how man may live the greatest life, that it may be well to give a few very simple concrete examples which will clearly show that an individual's mental characters are almost all acquired, not inborn.

The capacity for learning to speak a language is an inborn human trait, but the language which is spoken is a pure acquirement. A child born of English parents but placed in a French household immediately after birth, and hearing nothing but the French language, would be unable to speak or understand a single word of English.

When children have the same opinions on political or religious questions as their parents, they hold these opinions, not because they are born conservative or radical, anglican or dissenting, but because they have been in the mental environment described by those terms, and have themselves acquired in due course the opinions offered to them. That is the reason why such things as politics and religion are found to run chiefly in families. It is only the more energetic minds, the minds with greater powers of acquisition, which make mental acquirements outside their own domestic environment. Thus it is that the man of travel is usually broad-minded, while the stay-at-home is apt to be a bigot.

But, indeed, one need go no further than to draw attention to the well-known fact that, no matter what nation a man belongs to by birth, he will acquire the mental characters of the race amongst whom he lives, provided only that his youth be passed amongst them. Youth, as we have seen, is the great time for mental acquisition. Probably very few of us change our mental characters—our opinions, for example—about anything which we deem of importance, after the age of forty-five. That is rather a sad truth, but it is a truth ; were it not so, the progress of the world would be infinitely more rapid than it is. The social reformer—the socialist, for example—who aims at the establishment of a state of affairs utterly opposed to all the opinions which the

present generation have acquired from the previous generation, will preach in vain to the mass of the *older* voters. They are not susceptible any longer to an acute mental infection of this kind. Mentally, they are immune. Politically, they are immune, having suffered from very prolonged attacks of conservatism or liberalism as the case may be. But let the socialist or the imperialist bring the younger minds under his sway, and they will be found susceptible to new ideas—doubtless leaning to the one or the other side as they are influenced by many other considerations. Our point is, not that they will acquire any particular set of opinions, but that they are susceptible, and have the capacity for acquiring whatever opinions they please. That capacity the older individuals have lost ; they can no more change their opinion than they can take measles, and for the same reason.

“To sum up : Man is mentally a bundle of capacities for making acquirements, actual acquirements, and instincts which are mainly incitements to make acquirements. In the case of any given man it is hard to distinguish the inborn from the acquired. It is hard even to estimate his true capacity for making acquirements, for this faculty may be largely increased or diminished by acquirement. Nevertheless we are entitled to declare that in the mental characters he exhibits acquirements enormously predominate over inborn traits ” (Reid).

"We often hear of hereditary talents, hereditary vices, and hereditary virtues ; but whoever will critically examine the evidence will find that we have no proof of their existence. The way in which they are commonly proved is in the highest degree illogical ; the usual course being for writers to collect instances of some mental peculiarity found in a parent and in his child, and then to infer that the peculiarity was bequeathed. By this mode of reasoning we might demonstrate any proposition ; since in all large fields of enquiry there are a sufficient number of empirical coincidences to make a plausible case in favour of whatever view a man chooses to advocate. But this is not the way in which the truth is discovered ; and we ought to enquire not only how many instances there are of hereditary talents, etc. But how many instances there are of such qualities not being hereditary. Until something of this sort is attempted we can know nothing about the matter deductively ; while, until physiology and chemistry are much more advanced, we can know nothing about it inductively" (Buckle).

Is there not, then, something mentally inborn ? Decidedly there is, and something of the greatest importance. But what is inborn mentally is *quality*, not *quantity*. The human mind is almost a blank at birth ; but it has vast inborn possibilities, capacities for acquirement in response to the proper stimuli. Those stimuli are to be

found in suitable mental nutrition, mental exercise or use, and mental protection. The average human being is by innate qualities neither an idiot nor a genius, but is possessed of a certain amount of brain tissue which carries with it the capacities for average development of mind. It is the quality of that tissue which varies innately, and which determines how great mentally the individual can possibly become under the most favourable circumstances. Similar quality of brain tissue is necessarily inherited from the continuity of germ plasm, but it must be always most carefully borne in mind that what is inherited is a *given capacity for acquisition*—never the acquisition itself, in spite of popular opinion to the contrary. The mathematician does not hand on his mathematics to his son, else would that son have no need to go through the drudgery of early mathematical training. When the son, too, is a mathematician, like the father, it is because both come from a common germ-stock, which gives rise to brains of a given *quality*, a given capacity for acquiring mental traits. For this reason, the said son may not be a mathematician at all, but a musician—his capacity for acquisition being directed into another channel. When the son 'takes after the father' in mental characters it is because of similar mental environment; he is given the same kind of mental food as his father had before him, and, having inherited a like capacity for acquiring, becomes

mentally similar. He is mentally susceptible to the same kind of influences, and also mentally immune in similar directions.

Now, it is because the innate capacity for making acquisitions varies so much, that all men cannot reach the same mental standard. All cannot acquire the same mental characters, nor in the same proportion. Men are not so many mental machines turned out to order—a fact which teachers and preachers, reformers and philanthropists, often seem to forget, if they know it. The effort to make all men think alike, therefore, on any subject, is a biological impossibility. A pint pot cannot hold a quart ; neither can a quart pot be filled by a pint. The Smithate of truth is always different from the Brownate of truth. Hence in any country which is free, where men are allowed to make what mental acquirements they wish, uniformity of thought and opinion is as impossible as it is undesirable. Where it is enforced, as in some religious systems, the result is intellectual stagnation and mental sterility. The number of men who live the greatest mental life will vary directly with the nature and amount of the restrictions put upon mental acquirements. No system which demands a mental conformity to a type can produce mental greatness. In order that all men should live their greatest mental lives, it is necessary that there be freedom for all to think as they like, and *equal opportunity* for all to acquire

what is worth acquiring. *Equal opportunity*, be it noted. Will it then follow that all would be mentally great under such circumstances? By no means. All have not the same inborn brain quality, the same capacity for acquisition. The fittest will always survive; the ablest will always be at the top of the tree, and never more assuredly so than when all have equal opportunity. Mental equality is as futile a dream as is physical equality; both are impossible. You cannot make a silk purse out of a sow's ear; the most that can be done is to give the sow's ear every opportunity for being the best possible. That, by the way, is more than has ever been done yet.

But even under the most favourable circumstances there will always be a certain number of individuals who are unable to live a great mental life, because of their innate deficiency in quality of brain tissue. Such individuals vary from born idiots to those merely naturally slow and stupid. Such an individual could no more become a Kelvin, than Alexander Pope could have become a physical giant. The capacity is lacking. No matter how favourable the environment, the capacity is limited. Every teacher of the young is only too painfully familiar with this type of mind. The unfortunate possessor is no more to be blamed for the incapacity than is a Kelvin to be praised for his ability, that is, neither is to be *judged* on that score. He is praiseworthy

or blameworthy, in so far and no farther, as he makes the best use of what capacity he has, what opportunities are vouchsafed to him. Some there will always be, to whom anything but a very low standard of mental development is an absolute impossibility. From them no reasonable system or person will expect much.

But fortunately, the average person has a quality of brain tissue which enables him to make all the mental acquirements necessary for living a great mental life—a condition we find far from possible in the purely physical sphere. The kind and extent of mental acquirements which may be made by a person of average ability in a life of average length are almost inconceivable, if neither time nor opportunity be wasted. This is where mind surpasses body. Its plasticity is immense, its scope apparently unlimited. Its growth, unlike that of the body, is unrestricted—save only by lack of opportunity. How great, then, the responsibility which lies upon any system of social, political, or religious education, which seeks to say to the human mind, 'Thus far shalt thou go, but no farther!'

Man, therefore, mentally, is composed of a certain kind, rather than number, of inborn capacities, tendencies, susceptibilities, immunities, in virtue of which he is enabled to make a vast number of varying acquirements in response to stimuli. His greatest mental life can be attained only if he be immune to those agencies

which are mentally destructive, and susceptible to those which are advantageous to mental development. What those agencies are, and how he may attain this immunity, has now to be investigated.

CHAPTER XI

MENTAL IMMUNITY

KEEPING in mind the object of our enquiry, namely, the discovery of some laws, forces, principles, agencies—call them what you will—which are capable of application to every part of man's nature, we may now look a little more closely into mental development and endeavour to ascertain the *conditions* under which man may lead his greatest mental life. If we can ascertain even what prevents his so doing, we shall have firm grounds from which we may draw conclusions.

It is perfectly obvious from what we have said already as to man's immense capacity for mental acquisition, that the whole question of his greatest mental life is one of EDUCATION, using that word in its widest sense. Everything depends upon what he learns, and more especially upon how he is taught. In earliest life he teaches himself by means of his few instincts, acquiring all the ideas which these serve to give him. The child takes up this task from the infant, and by means especially of his imitative faculty he becomes more or less like his com-

panions, young and old. Indeed, the marvellous manner in which a young child can, and does, copy its elders in all sorts of odd little ways, is most interesting, and sometimes extremely amusing. In this way he is often erroneously said to 'inherit' such and such peculiarities and tricks of manner from his parents. The imitative instinct is extremely strong in many children, and markedly present in all. Ere long his sporting instinct introduces him to a world of new ideas furnished by the games in which he indulges, some forms of which are common to children of all nationalities. In prehistoric times when man's sporting instinct was the means of bringing him his daily food, his enjoyment of the chase was that of both work and pleasure. His work *was* his pleasure. But, as civilisation advanced and as the means of subsistence became infinitely varied and more sure, he was no longer stimulated to exertion by instinct, but by his reason. On this account labour is distasteful at first to all, and is always to some. There is no *instinctive* delight in toil as such, though it is, of course, perfectly possible to acquire the mental characteristic of delighting in work and its results. In the same way the child, being compelled to abstain from his continuous instinctive mental and physical work—his play and sport—dislikes intensely the labour to which he is put when his education is taken out of his own hands and put into those of his teachers. Too often the system adopted is in

entire and absolute opposition to his natural instincts; school then is to him one continual abomination. "It would be difficult to devise anything more entirely opposed to the child's instincts than much of the school-room education of highly civilised races. Probably no child can be otherwise than somewhat miserable when at his lessons; at any rate, he is not so happy as when pursuing his instinctive sports. But there are degrees of misery. The child's instincts of curiosity and imitativeness remain as aids to his teacher. If by means of them he can arouse his pupil's interest, his own task will be rendered easier and the child's lot less unhappy. Work will then become in some measure a form of play. In some measure it will be founded on instinctive activity" (Reid).

The tremendous advance that has been made in our own country in the scholastic methods for the young, during the past generation, have been precisely upon these lines. Those of us who remember our own early introductions to school life, and compare our lot with that of most children to-day, are indeed thankful—for *them*. The introduction of 'object lessons,' 'nature lessons,' and so forth, has made school in many cases a veritable delight instead of an intolerable bore. But great though the improvement is, there is still room for much more. The training of the *teachers* still leaves much to be desired in many cases. Too often they are selected and

appointed because they have proved themselves capable *learners*, not because they are capable teachers.

The education problem is a scientific problem which concerns the living of the greatest possible mental life. It should have nothing to do with either politics or religion; and yet, strangely enough, we as a nation insist upon our educational methods being settled upon political or religious lines! Truly a deplorable state of affairs! The methods of our national education must be decided by votes given—at their best—from either political or religious convictions! It is as if we demanded that a number of electrical engineers should paint a set of pictures for the National Gallery—the result is likely to be as satisfactory in the one case as in the other. The truth is that, as a nation, we have not realised what education is. We persist in regarding it as identical with instruction, with which it has but little in common. Education is the drawing-out or developing of the mental capacities. Instruction is merely putting something into the brain. And because we regard these two essentially distinct processes as one and the same thing, we have devised many scientific methods of instruction, but none of education. Our teachers in schools and colleges and most of all in our universities, are not expected to do more than impart knowledge, at the very most; too frequently all that is demanded of them is that they

produce sufficient evidence of having themselves learnt a certain number of facts. Whether they have any idea of how those facts can best be imparted to others with the best results, is left to chance. The common experience is that the most accomplished scholars are often hopelessly incapable as teachers; but it takes a long time to impress this truth upon those whose business it is to appoint teachers. In certain spheres of education, it is no exaggeration to say that the question, 'Can this candidate for the position teach?' is never asked. All that is asked is, 'What has this candidate learnt?' Certain certificates or diplomas or testimonials are demanded which guarantee that the candidate has acquired sufficient knowledge to pass certain standards of examination, and proficiency in this department is unquestioningly accepted as evidence of ability in the other.¹

If this be true—and it is undeniable—how much more is it the case that the real power of educating, the real capacity to draw out mental susceptibilities, and the knowledge how best to do so, is sadly neglected in our system of education. In the case of the young, this is the all-important factor. It is not implied that teachers do not do their best—far from it. Doubtless they do. It is not the teachers who are to blame, but the

¹ We are reminded that proficiency in one or other branch of athletics has been the qualification demanded in some cases—concerning which comment is needless.

system. The teachers have never learnt scientific methods of educating, and can only struggle on as best they can. If any reader thinks this an exaggerated picture of the present condition of educational affairs, let him ask this question—How many teachers of young children in our national schools and nurseries have any idea at all of the order in which the various faculties and senses in a child are capable of appreciating minute differences in impressions? How many teachers *know* at what age a child may be expected to discriminate between closely allied sounds and sights, not to mention ideas? Half the faults attributed to children are due to their senses not having yet acquired the power of making fine distinctions in sounds or sights, as are manifested in reading, spelling, or writing. The tragedy of it is that the children have their ears boxed for being unable to hear and their eyes dimmed because they cannot see! There is no greater crime—and it is committed daily—than to punish a child because it *cannot* understand.

Truly we have but little science of education with all our education in science!

It is not surprising under these circumstances that there are but few who can ever lead really great mental lives. It is not surprising that we do our national thinking in a very crude way—when we do any thinking at all. Very few of us were ever *taught* to think, though some are impelled to do think—untaught—for themselves.

Doubtless we are *told* sufficiently often that we ought to think more, and here and there a voice is raised protesting that in all the rush and cram of instruction no time is left to the pupil for thinking. But, it is one thing to tell an individual that he must acquire the habit of thinking carefully; it is quite another to show him how to do it. As we have said, but few are ever taught to think, and therefore but few are capable of following out in their own minds any prolonged train of ideas and of forming reasoned conclusions thereon. When the ordinary person says, concerning a given proposition put before him, 'I will think over it,' he really means, 'I will postpone my answer for a time'—which he does, under the impression that in the interval he is thinking. As a rule, he deludes himself, except in so far as the subconscious part of his mind takes up the process and thus helps him to 'make up his mind.' Instances of this process are recorded by people who have gone to sleep puzzling over some point or other and who on waking find it quite clear, or, who wake up suddenly, feeling that the solution is in their mind.¹ Most people waste a shocking amount of time putting off answers to questions which demand

¹ A well-known solicitor told the writer that he owed his successful career to solving a legal problem in this way when a junior in his office. He woke up, wrote it down, and presented it next day to the astonished heads of the firm.

prompt action, under the delusion that they are going to think them over.

A scientific method in thinking, without which it is impossible to live the greatest mental life, is a delightful rarity to encounter. It follows, therefore, that the majority of people are utterly unable to appreciate in any adequate manner the scientific modes of thought of the best thinkers ; their grand conceptions go over our heads, not into them ; and what is grasped is but a caricature of the original. It is probable, for instance, that the majority of Darwin's' fellow-countrymen are still absolutely ignorant of his train of thought and very hazy concerning his deductions. Still less do they realise that the great principles which he laboured to demonstrate are applicable to every sphere of existence—that the struggle for existence which results in the survival of the fittest is as true of the mental and moral and spiritual life as it is of the physical. And if we have not realised these things, why have we not ? Simply because we have never been educated in thinking by scientific methods.

So we go on, treating a mob, a class, a family, a nation, as if they were all so many machines made to a single pattern, all capable of absorbing equal amounts of food, drink, facts, and ideas—expecting each individual to respond in identical degree to identical stimuli. No effort is made to educate the individual, no account is taken of hereditary tendencies or acquired characters,

either to eliminate the worthless or develop the good ; all are treated alike, and the result is left to chance. Naturally, that result is—to say the least of it—disappointing. The children of the far-off mountain hamlet and those of the Manchester city slum are all taught practically the same facts in the same way at the same hours for the same length of time, regardless of everything that has made them what they are, and equally regardless of everything which could make them what they ought to be. National education, so-called, ceases to be necessary at a certain age or on reaching a given standard of knowledge or ignorance ; and the scholars leave school, only to find that all they have had taught them has fitted them—for nothing in particular except to swell the number of the unfit. They are not educated. Their capacities have not been drawn out in such a way that the teacher or parent can say, 'This is the career for which this child is best suited.' Indeed, too often all the individuality has been stifled in the effort to produce a given type or standard. Much labour has often been expended in making the child acquire stupidity. All is done regardless of the individual.

But to come to closer quarters with this question. Our contention is that a faulty system of education is the great factor in preventing the living of the greatest mental life.¹

¹ For a detailed analysis of all the factors in this question

What is meant by a scientific method of education, and what is not meant by it? For one thing, no such method would countenance for a moment the teaching of assertions which are known to be untrue—for example that the world was created some few thousand years ago. It does not mean cramming the mind with a number of facts connected with any or every department of science. Cramming in a science is as bad a system of education as is cramming in a language or any other subject. Scientific education means a certain *method of dealing with facts*, and especially broad generalisations, things *known to be true*. In that way "the pupil is supplied with the maximum of useful information (that is, information which will link up with his subsequent experiences), and with the capacity of so manipulating this information that his receptive powers are not diminished beyond their natural and inevitable decay, while his reflective powers are increased to their utmost extent." That places instruction with reference to education in its proper place. "Then from his subsequent experiences he will derive the greatest value possible. A 'classical' education errs by not supplying useful information. A dogmatic education errs by destroying the power of utilising experience. A scientific education must avoid both errors. It must not waste the pupil's time by imparting

the reader is referred to chap. xxiv. of 'Principles of Heredity' (Reid), where the same argument is elaborated.

knowledge which will be valueless to him, and which therefore he will forget ; it must not blunt his receptive and thinking faculties by inculcating generalisations in such a way that he shall become incapable of profiting by fresh experience. Not since Pagan times, when data of science were few and easily manipulated, has scientific education at all approaching the most perfect possible been given to any body of men. But, because, amid the competitions of an industrial civilisation, the survival of the form of mental training which develops the greatest intelligence is alone possible, the time is rapidly approaching when the best possible will be given to all men. The nation that first applies that method will, for a time at least, be the leading nation " (Reid).

That is the first essential for a scientific education—the instruction in data which are true as far as human knowledge knows, and which are useful for future use.

The second essential in a scientific education is of greater importance still, and without it there can be no possibility of a great mental life. It is the *way in which facts are taught*. This is the point that is so constantly missed or ignored. It is assumed that facts are facts, and that therefore once stated there is an end of them. The mistake is a vital one in educational method. It is the easiest thing in the world—and it is constantly done—to teach facts with disastrous results to the intelligence, to teach them so as to

inhibit mental growth instead of stimulating it. This is an infinitely more important matter than the facts themselves ; indeed, it is not too much to say that it is possible to teach falsehood with good intellectual results, and to teach truth in a way which spells intellectual disaster. To illustrate this fundamentally important fact, let us take a concrete example.

“ Suppose I tell my child that the earth is flat, and succeed in surrounding him with influences which raise in his mind a prejudice in favour of that belief so strong that he will ever after be impervious to rebutting evidence, and will, in fact, regard all such evidence with abhorrence. The thing has been done, and may be done again. Then all people, who have been similarly trained and who, therefore, agree with him, will describe his frame of mind as one of ‘ simple faith,’ or ‘ stedfast faith,’ or by some such eulogistic expression. People trained according to the same method, but in a different though perhaps equally absurd belief, will be less complimentary, as will be those who know on positive evidence that the world is round. Now since in this particular I shall have abolished the child’s splendid human power of learning and thinking, since I shall have rendered him as incapable of profiting from experience as a purely instinctive animal, his mental condition will evidently be one of extreme stupidity. A human being cannot be made stupid in compartments. If he acquires

a vicious habit of thought in one thing, he is liable to apply it to other things. The main injury that I shall have done my child, will be due therefore, not to the untrue doctrine, but to *the way in which I taught it. Had he been educated by a better method, he would soon have discovered and repudiated the untruth.* His mind will have been more than burdened by an untruth. It will have been enfeebled and shackled.

" But now, suppose that I taught him that the world is round, but still by the old vicious method. Then I shall not have loaded his mind with an untruth ; but I shall put chains on it nevertheless. I shall have equally limited his power of learning and thinking. He will hold *the truth as he held the falsehood, as a mere superstition, a prejudice.* I take it that a superstition is not necessarily an untrue belief. It is a belief, true or false, held in a certain unreasoning unintelligent way. So far as any man holds a belief in this unreasoning way he limits his power of learning and thinking. If his mind be loaded and limited on all sides by a multitude of superstitions and prejudices he will of necessity be very stupid, very incapable of learning and thinking. The epithet is opprobrious ; but I do not know how else to describe *an incapacity to revise erroneous beliefs and opinions by the light of fresh and perhaps conclusive evidence.*

On the other hand, if I teach my child that the

world is of this or that shape, giving data and conclusions in such a way as to leave his mind capable of future acquisition and thought, I shall have *greatly enhanced the intellectual value of the truth, or greatly minimised the evil of the falsehood*. His belief, true or false, will no longer be a superstition, a prejudice, but an intelligent conviction, capable of revision, and worthy of the wonderful human intellect. He will not only have acquired knowledge, but also that without which knowledge is useless, the power of drawing rational inferences, from data which he verifies habitually" (Reid).

Indeed, it is hardly too much to say that, for the purpose of drawing out the faculties of the mind and enabling it to live its greatest life, it matters very little what is taught, it matters everything *how* it is taught. The truth will sooner or later assert itself if the mind be educated instead of or as well as instructed. The process must, of course, be gradual. The child must be taught some facts simply as facts, in the first place ; but at the same time he should be told that ere long the reasons for belief in these facts will be forthcoming—and that very promise should be the reward of learning. The instinct of curiosity should never be suppressed, inconvenient and awkward as it is apt to be at times. It is astonishing how many parents endeavour to suppress the child's curiosity, its habit of questioning—mainly, we believe, because they have not the courage to

say, 'I do not know.' The child is apt to think that parents are omniscient ; and parents are more than apt to encourage this delusion. They are found out sooner or later at the cost of breeding distrust in the child's mind. Far better for both child and parent would it be, if the parent, on being asked one of the innumerable questions put by children, were to say perfectly frankly, 'I do not know,' or, 'No one can be certain,' or give some such answer. Instead, the rule is, to reply, 'Don't bother me with such questions !' or, 'You're too young to know that,' or some other such evasion—recognised as an evasion very soon by the child. We have found that the simple telling of the truth, though it involve confessing our ignorance, gradually brings the child to understand that many things are too difficult for us, and that we are not expected to know everything ; we have found that instead of suppressing the natural curiosity the child is encouraged by that method to ask natural questions with a view to their being explained, and, if they are not, that he is perfectly contented to wait further information. It is a mental immorality to give a child a false answer with the idea of satisfying the young mind temporarily ; the shock of the discovery of a number of these subterfuges destroys in time the capacity for belief even when the belief is well founded. Any intelligent child can soon be made to understand that it cannot understand, but it fails

to comprehend the necessity for its being deceived.

It must be abundantly clear that in order to live the greatest mental life a scientific method of education is the essential thing. Every effort must be directed to drawing out all the inborn faculties so as to enable them to make the greatest acquirements. The mind must be made as susceptible as possible to the action of all agencies which can contribute to its development, and rendered as immune as possible to all agencies which retard that development. This mental immunity and susceptibility is to be attained by the forming of proper *habits of mind*, habits of thought and learning, habits of reasoning and enquiring, habits of active deliberation and judgment. The secret which lies at the basis of successful attainment is to be found in the acquiring of the power of mental concentration by a purposive effort of will. No slipshod mental work will produce a great mental life. The will must be trained to concentrate upon the task in hand, be that task thinking, learning, deliberating, judging, or observing. The ability to concentrate the attention upon any given mental task is, by most, only acquired after long effort. It is a fatiguing thing, and is hence avoided by all but the most energetic. But it is the whole secret. The successful teacher, preacher, orator, statesman, conversationalist, is he who has the power to make his listeners concentrate their

attention upon his words and thoughts. The greatest mental life is attained by him who can give his undivided attention, *i.e.* concentrated attention, to the matter in hand. The mind is then *immune* to other influences; they become inoperative and pass by without effect. The scientist engrossed in an experiment is unaffected by surrounding noises or disturbing elements which would render the reading of a book impossible to one who merely wished to pass the time. The teacher who concentrates upon his subject takes no notice of the slight interruptions which would upset a less concentrated mind. The listener absorbed in following an orator takes no heed of time or discomfort; his mind is immune to any influences whatever for the time being, other than the one upon which he is concentrating. No two phases of mental or intellectual activity can be dominant at one and the same time; one must eclipse the rest. In the same way no two physical agencies—diseases, for example, can dominate the whole system at once. One excludes the other. Cultivate this power of becoming mentally immune to subsidiary impressions of sight, sound, hearing, or touch, if you would live the greatest mental life. It can be acquired by any man of average will power; in some it is a natural faculty. In its absence no man can be mentally great. The mental inertia so characteristic of the great majority of minds is nothing more or less than the absence of the

capacity for concentration. The particular method adopted to gain this may vary with individual tastes and peculiarities; but concentrate we must, if we are to live the greatest mental life possible for our respective inborn capacities. Once a man has found out how best he can do this, his power for mental work is marvellously increased and his output correspondingly great.

CHAPTER XII

MENTAL IMMUNITY (*Continued*)

At this point in the consideration of our subject we are again confronted with the very real difficulty of separating, in the mental sphere the intellectual from the religious. As a matter of fact, in all civilised communities in which systems of religious teaching play an important part, those systems very materially influence mental development. All of them more or less interfere with that freedom of intellectual activity which alone can be described as the greatest mental life. All religions seek more or less to restrict the natural curiosity of the human mind and to substitute for the results of investigations certain doctrines or beliefs. That is the first way in which religion influences the mind, namely, by the teaching of certain beliefs with regard to man and his surroundings, which beliefs are intended to form a guide for man's life. The greatness of the life, therefore, will obviously depend to a large extent, upon the kind of belief. But that is not all that a religion does. If it were, there would be less harm done than there is. The second and more important manner in which the

mind is influenced by religious teaching is the *method* by which that religion is taught, quite irrespective of the beliefs concerned. We have noted this point already in connection with methods of education, and what we have said on that subject is exactly applicable to the question of religion and religious teaching ; but, in order to be perfectly clear, it will be well to repeat a little and to exemplify our meaning. We are endeavouring to find out how the greatest mental life may be lived ; and we have made the assertion that religious beliefs and especially the methods by which they are taught, will greatly influence that process. Now, be it noted in this connection that it makes not the slightest difference whether those religious beliefs be true or false. What does make the difference in the long run is the way in which they are presented to the mind. The orthodox attitude on this subject—and this applies to all religious systems—is the acceptance without question of a number of dogmatic statements drawn up by human minds in the form of a creed, a confession of faith, a number of articles, or some such document. These statements it is the business of the religious teachers of any sect to put before their learners as things to be accepted without question and with little or no attempt at explanation. The amount of intellectual doubt, as to any one of the dogmas, allowed to a man will vary with the particular sect to which he happens to belong ;

but in none is he actually encouraged to verify for himself, or to ask others to verify, the evidence upon which these are based. It is, of course, quite true that in the religious sphere the beliefs taught are not founded upon scientific data, that is to say, data *known* to be true. That does not necessarily mean that the doctrines themselves are false. It simply means that what is commonly known as religious truth is to be accepted as an act of faith, not as the result of an intellectual process. Of course, it will be readily recognised that, if the foundations of religious doctrines were ordinary scientific evidences, faith would no longer be a necessity—because the word implies the capacity to believe in the absence of proof. It is precisely this capacity which a modern mind lacks entirely, or is less and less willing to trust.

It is not our present business to enquire whether the doctrines taught by any special form of religion are true or false ; what we desire to show is the effect upon mental development of the method of religious teaching.

“ Judged from the intellectual standpoint it may be a good or bad method. By means of it are produced in a great measure those mental uniformities which the adherents of any given religion display when compared with another, and those mental divergencies which they display when compared with the adherents of other religions—mental uniformities and divergencies which are commonly supposed to be innate, but,

which, in fact, are acquired. If a religion be taught in such a way as to leave the minds of its adherents receptive to fresh experience, then that religion, however false, will be, at any rate, no permanent instrument of human degradation. Its false doctrine will presently be discovered and repudiated. Its true doctrine will not any the more be denied because held by an intelligent race; and the advance of knowledge, possible under such conditions, may ultimately confer on them the high distinction of removal from the category of things believed to be true to the category of things known to be true. A religion taught in this way will be associated with a changeful and progressive civilisation in which many great men arise, for supreme intellect will have scope and ordinary minds will be receptive. If, on the other hand, a religion be so taught that its doctrines are held as mere superstitions, then, whether true or false, it will become an instrument, the most potent conceivable, of human degradation. It will surround and limit the minds of its adherents by an almost impenetrable wall of prejudice. It will inflict on them premature mental senility, for in all things which fall within its range, the minds of the young will be rendered almost as incapable of acquirement as those of the aged. It will be associated with a state of society stagnant and inefficient, and because inefficient corrupt. Few great men will arise under its influence, for genius, having little scope, will be

stunted, and ordinary men will be nearly as non-receptive as insects. To be great in any useful sense it is not enough that the worker should possess great powers which he uses greatly. It is necessary also that his great achievements should be recognised and appreciated by his compatriots. Newton would have been ignored during the dark ages, Darwin would have been burnt.

"The incalculable stupidity which may result from vicious methods of teaching is well illustrated by the fact that for ten or twenty centuries the adherents of two rival religions, only one of which can be true, will dwell side by side, and dispute acrimoniously the whole time, and yet be unable to come to a common understanding by the mutual elimination of error. I imagine that no sincerely religious man will deny the existence of this excessive mental inertia. If he will not admit it as regards the members of his own sect, he will at least admit it as regards other sects, the adherents of which, as he conceives, are prevented only by lack of intelligence from perceiving the truth which to him is so clear. The ecclesiastics of every religion hold the same beliefs as the laity; but they are much more thoroughly trained dogmatically. They are supposed to be learned and wise, and to have the best intentions. Yet notoriously of all men they are the least open to the influence of fresh evidence no matter how conclusive it may be. For instance, it was not till the truth had been known for

centuries that the majority of European ecclesiastics admitted the spherical shape of the world. Here, therefore, it was not the doctrines, but the way in which they were held, that was the principal obstacle of the advancement of knowledge."¹

We are coming, therefore, to the conclusion that the ordinary orthodox methods of religious teaching constitute a very serious hindrance to the living of the greatest mental life, because from their very nature they tend to stifle enquiry and to discourage investigation. If this be true, and it can hardly be denied, the very serious problem arises as to how religious truths or doctrines should be presented to the minds of children. That is a problem which is clamouring for solution and which was never more pressing than to-day. It is not our purpose to supply that solution. What we are concerned with here is to point out the inevitable effects of present methods. It may be—and undoubtedly is—a difficult problem; but one thing is very certain—that nothing could be worse than to teach a child a doctrine—even if it be a true doctrine—in such a way that its capacity for intellectual development is seriously hindered. Moreover, even if it were at one time advisable—which is questionable—it cannot be so to-day, because the scientific method, being in vogue in so many other directions, the individual very soon becomes irritated at its non-application to religion. He then has to

¹ Reid,

make his choice. Either he must apply his scientific method to his religious experience or he must make up his mind that he will keep his science and religion strictly and severely apart. There are those, often whole denominations, who insist that this should be done and who do their best to make it impossible for their followers to raise any questions at all in the religious sphere. There are others who are so constituted that they can be scientific in some phases of their character and what we should term orthodox in others. But the tendency of the day is to an application of the scientific method in every direction, including religion. In fact, it looks as if the old prophecy, uttered by Oliver Wendell Holmes many years ago, were coming true—that in the future all religious roads would lead in one of two directions—to Rome or to Reason.

After what has been said in previous chapters it will be readily seen that this, once more, is all a question of relative immunity. It is open to every mind to be so treated, from the point of view of systems of religion, as to render it susceptible or immune to influences outside its own denominational lines. Once more it is a question of the formation of mental habits and mental attitudes. The inborn capacity for mental acquisition can be developed in one of two ways. The mind can acquire the capacity of accepting religious teaching without question, and by long habit can render itself perfectly immune to any

temptation to question that teaching. Intellectually, that result is disastrous—as we have already seen. On the other hand, the mind can acquire the habit of searching out the explanations of observed evidence and of being susceptible to the attraction of all forms of religious enquiry. That is the type of mind which is being largely produced to-day, as the result of the scientific methods practised in so many directions in modern life. The greatest mental life must be that of the widest intellectual freedom; it must be that of the mind which is susceptible to all sources of knowledge; it must be that in which the natural instinct of curiosity has been so trained and educated that it can follow up to an inevitable conclusion any train of argument placed before it. Such a mind would find it quite impossible to refuse to investigate phenomena of any kind—religious or otherwise. It has become highly susceptible to the scientific method.

We see, therefore, that methods of religious teaching are of the greatest possible importance from the point of view of the mental life, quite apart from the consideration of what might be termed purely spiritual results. The greatness or littleness of a man's mind is chiefly determined by the methods of teaching to which it is subjected by its secular and religious teachers. Orthodox religious methods of teaching seek to keep the human mind in strict bonds; and it was not until men once more began to read the

works of ancient Grecian philosophers that there was any real attempt made to throw off the mental yoke which the church sought to impose. As Reid most truly says, "Wycliffe, Luther, and others appealed from the Church to the Bible. No event in the history of the human intellect had results more momentous. It conferred on every man the right and the possibility of private judgment." without which it is utterly impossible to live a great mental life. That was the beginning of the appearance of the modern mental attitude; and since then men have been claiming more and more the right to think for themselves, and it is only in so far as that right is conceded by a system of religious teaching that the adherents of that system will attain mental greatness.

We have still, however, a long way to go, and no better evidence of that can be found than the way in which we treat our children in the sphere of religious teaching. It is quite impossible to expect the greatest mental development until we have reached the stage when we feel we can afford to be perfectly honest with the child. No one would maintain for a moment that we are so to-day. Far from it. It is hardly too much to say that every child, almost without exception, is deliberately 'humbled' upon matters of the greatest importance from the very moment that child is able to grasp the simplest ideas. We flatter ourselves that the children are satisfied

with our attempts to 'put them off,' whereas, as a matter of fact, they are merely irritated or amused at our clumsy attempts to deceive. Surely one may look for a time when reasonable and truth-loving parents will no longer think it necessary to tell their children deliberate untruths from a mistaken conviction that the truth would not be good for them. It cannot be too soon realised that infinitely more harm is done to the development of the child's mind, by burdening that mind with a number of half-truths or absolute falsehoods which sooner or later have to be unlearned, than the teaching of the simple truth could under any possible circumstances bring about. The system really means nothing more or less than the adulteration, often the poisoning, of an intellect. If it were only in reference to certain delicate subjects that this pernicious system obtained, there might possibly be some excuse for parents and teachers, because there is undoubtedly a very real difficulty in deciding how much should be told to a child concerning certain phases of its life and at what age that knowledge should be imparted. That, however, does not mean that the subject should be shirked altogether, still less that what is told should be other than the truth. If mothers and fathers could only realise the difference it would make to their children if they seized upon the opportunity, at the right time and under the right circumstances, to give accurate information in

the proper spirit, an incalculable amount of after-suffering would be saved and an enormous number of mistakes prevented. But, as we say, it is not only in these matters that truth is suppressed. There is a much worse side of the question. Mothers and nurses and those who have charge of the young do not hesitate to lie most deliberately to children from the most selfish motives and merely to save themselves trouble. Thus, in order to prevent a child intruding into certain apartments, the room is pictured as being peopled with terrifying ghosts, and the time of darkness is made to be synonymous with danger from all sorts of weird apparitions and, worst of all, perhaps, an evil spirit is painted in the form of a hideously realistic person, in order to terrify the young mind into an automatic obedience. As for the adult who poisons the child-mind with absurd ideas simply for his own amusement to ridicule the faith placed in those ideas, no words can be too strong in condemnation. Fortunately there are signs that the books which are published for children are becoming more and more truthful. "All these lies have to be unlearned, frequently in suffering; and, if the unlearning is followed by excesses, we have to blame a policy of mystery and repression which has created an unwholesome curiosity that is quick to satisfy itself. Possibly, if man were made familiar with truth in his youth, he would be less ill at ease with her in his later days."

Immunity in the mental sphere, therefore, means this. A man must make himself as susceptible as possible to everything which tends to develop his mental capacities to the fullest possible extent. In his early youth he has no choice—he does not teach himself; he is taught. Therefore, the object of the teacher should be so to treat the child-mind as to render it susceptible to the reception of ideas, at the same time educating the power of discrimination and judgment. It may be advisable to tell the child plainly, in certain terms, that the time has not yet arrived for full information on certain points, but that this will be imparted and explained later on. These matters, however, should never be misrepresented. In most cases it will probably be found that when a child asks a question naturally it has reached the stage at which a true—if not complete—answer may be understood. Nor need there be any hesitation in frankly avowing to the child, one's ignorance on many subjects. They should be told plainly that we do not know, if that be the case. The sooner a child realises that parental, scholastic and sacerdotal knowledge is very finite and strictly limited, the better. The temptation to substitute a lie for a confession of ignorance is one which should be resisted at every turn.

Under the scientific system the young mind would grow up, ever open to receive the truth from any source whatsoever, and more and more

capable of discerning error and falsehood. It would become more and more immune to all influences which tend to limit and confine its intellectual operations, and ultimately in its greatest development it would be perfectly resistant to all forms of mental suppression, no matter whether these be parental, scholastic, or religious. Happy the child whose youth is so treated !

For the adult who has been the victim of a mistaken system of education, a system which has involved the suppression of many mental energies, the problem of living a great mental life means a great effort. He will never gain the susceptibility that he might otherwise have developed ; but still he can do very much to prevent himself becoming completely influenced by such mental agencies as are undesirable. His faulty education has rendered him partially immune to true educational influences, instead of making him more susceptible to them. He must therefore endeavour to regain this lost susceptibility, to allow his mind to be open to the reception of mental impressions. He has been taught, unfortunately, that his real mental strength lies in his immunity from receptivity. He must now learn that his mental power must lie in his capacity of judgment and discrimination. He must search for truth in every direction and be willing to find it under many guises and be always ready to subject its claims to the test of experience. In this way only can such an individual attain that

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condition in virtue of which he is enabled to resist partially or absolutely agencies destructive to the greatest mental life. In this way he must change the direction of his mental attitude ; he must become immune to the effects of his faulty education, a faulty religious system, and as far as possible to the effects of the lack of opportunity, all of which may have played a part in interfering with his mental growth. His greatest mental life is attained when he is able to resist all such agencies of mental repression, when he is immune to them and their results, and susceptible to all mental influences which make for intellectual development.

CHAPTER XIII

MORAL IMMUNITY

How do these considerations apply in the sphere of morality? Has the law of immunity any bearing upon conduct and habits of life? If it be universal, it must. As a matter of fact the application is as obvious—if not more so—here as elsewhere. The processes are identical. The greatest moral life is one of immunity to temptation and freedom from sin; moral immunity is the capacity of resistance to these two. A man's moral life is truly the exact measure of his susceptibilities and immunities in this sphere, together with their interactions with his mental sphere. We use the term morality here in the sense of a given system or standard of conduct apart altogether from any specific religious beliefs. By individual morality we mean the capacity of a man to conform more or less to the system of social obligations and duties which obtains in his community. Using the term in that sense there is no part of man in which the law of immunity is more plainly a guiding principle. We have hinted at it often in previous pages, especially in those habits—such as alcohol-

ism—in which the moral, mental and physical are mingled. But in order to emphasise our contention we may consider certain definite moral qualities and the application of the law to them. It will be simpler if we deal with the individual, as we did previously, meantime remembering that the law applies equally to families and nations. Moreover, it will be necessary, for the sake of clearness, to deal with one recognised moral system at a time. The system in which we are interested is Christianity, and it is its method of treatment which constitutes the subject of our problem.

A close examination of the lives of men and women very quickly reveals the fact that all have some power of resistance to the many various forms of temptation by which all are surrounded, and to the immense variety of destructive moral agencies to which all are continuously exposed. If this were not so, every one would be immoral and hopelessly wicked. A godly, righteous, and sober life, would be an absolute impossibility in the absence of any power of resistance to temptation. Now, this universal power possessed by every one is an inborn character varying immensely in amount in different individuals. In some it is but slight, in others it reaches what one may call an average standard, while in the exceptional few it is very great. But not only does it differ in amount in different individuals; it also differs very markedly in the same individual in respect

of different moral agencies. The temptations of one man are not necessarily those of another. Susceptibilities to moral infection in youth are neither the same in kind nor degree as they are in old age. Often more markedly perhaps is the distinction to be seen in the case of the two sexes. The amount of resistance varies therefore with many factors—race, age, individual, and sex, being perhaps the most obvious. Nevertheless, the resistance is present in all ; else would every one be by nature entirely evil. There have been those who taught that this was actually the case, that man by nature is utterly sinful and contains nothing of good. All that need be said about such a statement is that by nature man is neither good nor otherwise, neither moral nor immoral, but non-moral, with a capacity for acquiring mental characters which enable him to rise to certain moral standards. We are all familiar with the fact that there are people in the world, who can pass unscathed through certain moral infections, who remain absolutely untouched by the most severe temptation in virtue of their natural power of resistance. Those same infections or temptations in the absence of that natural or other protection would produce moral death. Such people as we have mentioned are naturally good, naturally sober, naturally truthful, strictly honest and so forth, in virtue of their natural resistance. To such a man the temptation of the offer of a thousand pounds to commit a

theft or to tell a falsehood, is literally no temptation at all. To him the effort of resistance is nothing. The resistance that such people possess is no credit to them, but it is something for which they ought to be most profoundly thankful.

Next we note that this natural immunity to temptation and sin—to moral infection—can be increased in the individual by certain processes and experiences. Thus it may be increased by continued living in a healthy moral environment to which the individual becomes accustomed and susceptible, and in which he becomes resistant to other environments.

In addition to this universal, natural and inborn power of resistance to moral infection we observe that some individuals, after passing through certain moral temptations or sins, acquire immunity to that special condition, an immunity which did not exist in them before this experience. This is not a universal result any more than it is in the case of disease. We are reminded that there are some physical infections—influenza, for instance—one attack of which leaves the individual more susceptible than he was before, while there are other physical infections after having suffered once from which the individual is immune. The same thing exactly is seen in moral infections. The truth remains that by some persons immunity to specific temptation is acquired as the result of painful and sometimes degrading experience. Once this does occur the

immunity is as a rule lasting and permanent. It is not a natural resistance ; it is acquired. It is not by any means an inevitable result. It is an occasional one. The individual began with a susceptibility and has become immune by suffering—an immunity which conveys safety and protection for a long period, as the result of the reaction undergone and which relates only to that particular condition. The thought then occurs :— Since immunity to temptation and sin can be acquired by experience of those conditions, why not try and confer this immunity artificially by exposing people to the infection ? Well, there are people who believe in the efficacy of that process and who maintain it is a good thing for people to sow their wild oats in the hope of reaping a moral immunity. Once more let us remember what we learned in the physical sphere. It may be all right for those who recover—though even in them the healed wounds must leave their permanent scars. But the whole point is that people thus exposed to infection run the risk of death for themselves and become centres of infection for all those around them. The law is the same in the moral sphere. All those who are so morally exposed risk moral death, and many actually die ; and so we find that just as the state interfered in the sphere of physical disease and made it illegal to confer disease upon people in the hope of rendering them immune, so the moral code—Christianity in this instance—steps in and in

its sphere lays down the law forbidding such a process. The risk is too great, the process too cruel, the numbers who perish too enormous. It is not justifiable to make all experience the effects of sin in the hope that they will become immune. Too many perish. That is Nature's method, not Christ's.

At this point we remind ourselves that in the strict sense of the word there is no such thing as inborn morality. All particular forms of morality are acquired characters in the individual, and in particular we remember that no moral characters partake of the nature of instincts. What is inborn in the individual is a varying power of resistance which is doubtless co-related to intimate physical and mental peculiarities. In virtue of this varying degree of inborn resistance to moral infection, the individual grows up either a saint or a sinner or somewhat of both. The "born saints," as we term them, have an inborn capacity to develop the greatest immunity to temptation, and this they do without effort. The "born sinner" on the other hand—the "born criminal," as he is sometimes termed—has an inborn tendency to become extremely susceptible to moral infection, which, in the absence of any opposing acquired immunity, leads to extreme degeneracy. The case is precisely on all-fours with that of disease. The physically perfect are born with tendencies to develop and grow into individuals whose tissues are highly resistant to disease infections, while the less fit

physically are those in whom the innate tendencies to the infection of tuberculosis, the action of alcohol and other similar agencies, render the adult a ready prey to this condition.

Individual morality—the capacity of living according to a given standard of social ethics—is chiefly a matter of inborn tendencies which become susceptibilities or immunities.

Turning now to the consideration of definite examples of this law in the sphere of morality, we note first that moral characteristics may be either mental or physical—the one doubtless dependent upon the other, sometimes obviously, at other times only presumably. But it is convenient to think of the two as distinct from each other, because mental or intellectual immorality can only become prominent under conditions of highly-advanced civilisation, where some given standard of ethics has permeated society and has been accepted. Physical immorality on the other hand, that is to say, immorality which partakes chiefly of the nature of excesses of animal passions, appears much earlier on the scene and brings man into closer relationship with the lower animals. If the intellectual side of man is to be regarded as the greatest product of organic evolution, then one must also regard intellectual immorality as being a much more heinous offence ethically, than physical immorality.

What, then, do we mean exactly by mental or intellectual immorality as opposed to physical

immorality? We mean simply that, given a social community which by common consent accepts a certain standard of right and wrong, *e.g.*, the standard of Christianity, that standard applies to mental and intellectual processes as well as to mere physical and bodily acts. It means that there must be a standard of right and wrong thoughts, that the mental processes—ideation, recollection, imagination and the like, are to be judged by that standard. If it be said that these things partake of the spiritual life, then we answer that in so far the spiritual and mental are one and the same thing, which we are not concerned to deny. The emotions also come into this part of our subject, being partly physical and partly mental but specially associated with the mind in its relation to the special sense organs. So that, to come to close quarters, the names of some of the intellectual or mental immoralities—sins, we call them—are as follows: “Pride, vainglory, and hypocrisy, envy, hatred, malice, and all uncharitableness” (to quote a list from a standard accepted by the community). To this might be added a long list of characteristics all of which are condemned by the same standard—a list which would include such qualities as meanness, deceit, dishonesty, and many others which we need not specify. The opposite of these mental traits constitute what we term virtues, chief amongst which may be placed love, truthfulness and generosity. There is a third group of

mental characters which it is not so easy to place in the category of faults or virtues, traits which in fact are non-moral but which are nevertheless just as much a matter of immunity or susceptibility. This group would include such characters as fear, courage, and so forth.

Applying the laws of immunity to these characteristics, the following considerations suggest themselves.

(a) *Pride*. An inordinate self-esteem or unreasonable conceit of one's own superiority in the possession (real or supposed) of talents, beauty, wealth, accomplishments, rank or office, which manifests itself in lofty airs and scarcely veiled contempt of those less fortunate or less gifted—this mental attitude is a mental immorality. The standard of right in the matter is that of meekness. Pride grows as the result of allowing the mind to become susceptible to the influence of thoughts of arrogance, of haughtiness, of flattery. A person who is unaffected by such ideas has no pride in the sense of fault, because the mind is immune to the influences of that suggestion or idea. It is a humble mind—immune to the infection or temptation of pride. The difference in individuals is a matter of their relative sense of the difficulty with which the immunity is acquired or the susceptibility yielded to. Those that are liable to this form of mental immorality must ever be on their guard against its action, until in time the mind becomes accustomed to the

attack, which then loses its danger. Immunity is gradually gained by patient effort. That immunity may be transient or permanent ; it may be proof against some forms of the infection but insufficient against others. But, like the man with the tendency to tuberculosis, if the susceptibility to pride be yielded to, the resulting mental attitude is as certain as is the physical morbid product. In the one case the physical environment must be changed, the individual placed where the agent of infection is either absent or where he becomes more resistant ; in the other case the mental environment must be such that the destructive agent is rendered powerless by antagonistic influences which produce the possibility of resistance. Feed the susceptibility to pride, and it is sure to develop into the actual fault. Strengthen the innate resisting power (possessed by all to some extent), and the mind remains or becomes immune.

The most accurate statement of the case would be that the early infant mind has no actual susceptibility or immunity to this or other mental immoralities, but that it has an inborn capacity for acquiring either the susceptibility or the immunity in response to the stimuli of use, nutrition, and environment.

(b) *Envy*. That condition of discontent exhibited by the sight or knowledge of the superiority (real or fancied) of another, or the success of another, and usually accompanied by some degree

of hatred for the individual envied or with a certain amount of joy at his discomfiture. It is therefore a complicated mental state, and is plainly to be regarded as a mental or intellectual immorality. It is as plainly acquired, not inborn. All that is inborn is the capacity of the mind to become susceptible or immune to ideas of an envious nature, and this tendency may be developed or repressed by suitable means. If the mind be encouraged to dwell upon thoughts of envy, it becomes more and more receptive to them—more tolerant of them, more readily inclined to act in accordance with them. Susceptibility is induced. On the other hand, if every suggestion of an envious nature be resisted from the very outset (and all have some natural power of resistance), this capacity of resistance can be so developed that complete mental immunity from this form of immorality may be acquired, and the individual will reach a stage at which it would be impossible to excite in him any such feeling, no matter how much the success or the superiority of others was pointed out to him. That immunity may be permanent. It may of course partake of the nature of a general immunity to all forms of envy, but usually one finds that it is more highly developed in some specific direction than in others, just as is an immunity to physical infection. For example, immunity to the envy of wealth may quite possibly co-exist with susceptibility to the envy of rank or beauty or

talent, or vice versa. This is what we saw take place in the physical sphere, and for precisely the same reason. The general power of mental resistance to mentally destructive agencies can be developed in response to the stimuli of nutrition, exercise and environment, just as the power of physical resistance to disease agencies is developed in the production of general good health. Specific agencies have to be dealt with one by one as they arise—tuberculosis at one time, smallpox at another—pride by one effort, envy by another—and so on. The ideal treatment of course would be, to acquire an immunity against all these destructive agents by one combined process.

(c) *Uncharitableness, Meanness.* This form of mental immorality may take the shape simply of a mental attitude of judgment or may be actually translated into actions of harsh conduct. In either case its basis is the same. Once more the mind can acquire certain tendencies to susceptibility and immunity in response to stimuli of nutrition, of use, and of environment, and finally can become very susceptible or very immune. The innate quality is shown by the ease with which the one or the other is acquired. In some, the mind readily acquires the capacity to become mean in judgment and ungenerous in action and conduct. If the narrow idea—the mean thought—be allowed to repeat its influence again and again, the mind becomes more and more accustomed to that mode of thought and action, more sus-

ceptible, and is finally fixed in that attitude. On the contrary, if, from the first infection or temptation, the power of resistance (possessed in some degree by all) be carefully nursed and strengthened, it will become more and more impossible for that mind to hold an ungenerous thought or to countenance a mean act. It will acquire immunity to such temptations or influences. Conversely, the mind becomes more susceptible to the appeal of the charitable thought, the kind and generous act. One mean thought or action makes another easier. One generous judgment or kindly act inevitably leads to repetition. Here, as elsewhere, the law is universal, the result inevitably thus.

(d) *Lying*. The act of telling an untruth or the thinking of a falsehood is notoriously a matter of the acquisition of a habit. In other words, it is the susceptibility of the mind to a moral infection. Too often this takes its origin in mistaken methods of education, the child being taught that it is wrong—or, at least, inexpedient—to tell the truth, long before the young mind can grasp the idea of expediency. Most children are naturally truthful. That is to say, they have a great power of resistance to this particular form of mental immorality. But the time inevitably comes when the temptation to tell a lie is strong, the infection highly virulent, and if this be yielded to, the next attack is less easily resisted. One attack leaves the individual less resistant than before—more susceptible; and unless great care be taken the

mental resistance in this direction will become extremely weakened. When we speak of an individual as being naturally truthful, we refer to one whose power of resistance to whatever use or attraction a lie may have, is great. When we speak of a 'born liar,' we refer to one who has become extremely susceptible to the habit of lying—a habit that may be acquired by very young individuals, becoming ultimately so pronounced as to render them almost incapable of speaking the truth about even the most trivial matter. There are undoubtedly some people who literally get to the stage of being unable to speak the truth. Sometimes this habit is allied to physical susceptibilities of one kind or another, such as is seen in the case of alcoholic degenerates, whose habits of lying are notorious.

Closely allied to this form of mental immorality is the habit of exaggeration which, indeed, is hardly to be distinguished from lying itself and which easily drifts into it. We cannot hope to produce minds highly resistant to falsehood when we are so chary of offering them the truth. We seem to think that the truth would be too much for them, forgetting that the mind will assimilate and acquire what is offered to it ; and, if its environment from youth upwards be half falsehood, what wonder that a truthful person is a comparative rarity ! If the child were told nothing but the truth, and allowed to speak nothing but the truth, it would inevitably grow up with a complete

immunity to falsehood. The mental habit, here as elsewhere, is the result of an acquired susceptibility or immunity in the one direction or the other.

It is unnecessary to multiply examples. The great fact is that the human mind, as well as the human body, has an inborn power of acquiring susceptibilities and immunities to an extent far beyond that usually recognised. The great difference between the two parts of man's nature lies in the fact that no limit can be set to the mental acquirements. They follow the universal laws of immunity. Habit is produced by repeated processes, just as a path across the unbroken snow readily yields to the foot. The path is soon formed, becomes easy to follow, and requires an effort of will to leave. It is doubtless true that the physical condition renders the mind more or less susceptible to this or that mental habit or attitude. The relation between the two is well recognised in some instances. Perfect health predisposes to good temper and cheerfulness, biliousness to despondency, gout to irritability. Some diseases have a contrary effect. For example, tuberculosis is well known to be associated with the emotion of hopefulness (the '*spes phthisica*' of physicians). Goitre is associated with nervousness and so forth. But all these conditions follow the same laws which, indeed, permeate every phase of man's nature and prove that mental morality is simply a matter of comparative immunity.

CHAPTER XIV

MORAL IMMUNITY (*Continued*)

TURNING now to the more ordinary sense in which the word 'morality' is used, we shall find that in matters of actual conduct the same phenomenon presents itself. We remember that there is no such thing as instinctive morality, and that no "human individual or race ever possessed any morality except such as was acquired through the imitative faculty, or, in rarer cases, through reasoned thought." "The extraordinary diversity of moral systems in time and space, the sharp contrasts that exist between race and race, the swift transitions that have occurred during history, is conclusive that morality is not other than an acquirement." What is inborn is the capacity of acquiring—possessed by all in some degree or other. The acquirement takes the form of a susceptibility or an immunity to the various items in the moral code in response to the attitude the mind adopts. That this is a mere question of immunity and acquirement is shown by the fact that what is regarded as immoral in one land and with reference to one standard, is not necessarily so re-

garded in another land, and with reference to another standard. The great difference in ideas regarding modesty is a striking case in point.

Of the actual deeds which we regard as infringements of the standard of morality some are—as we have seen—chiefly mental; others partake more of the animal nature. We have considered examples of the former, and the identity of the process in the latter admits of no doubt. In this category would fall to be included such sins or immoralities as cruelty, lust, destruction of life, and so forth. These are susceptibilities to the influence of animal passions which are the remnants of the early savage life of man, when the only standard of right was might, and the only selection of the fittest was a physical selection. We are therefore quite prepared to find that the inborn tendency to these immoralities is a strong one and very universal—as indeed is the case. Doubtless here, as elsewhere, there is great individual variation; but, in the absence of the acquirement of immunity or a great increase of what natural resistance there be, most human beings tend to yield to this temptation in some form or another. The cruelty of children—especially in young boys—judged by an adult standard, is notorious. Regard for the feelings (physical and mental) of others, is an acquirement. It is a susceptibility to other influences. Conspicuous regard for the preservation of life, especially the life of lower animals, is a high

development in the scale of ethics—a mental acquirement which some individuals cannot attain. The high degree of self-control in sexual matters is likewise a matter of acquisition—the gaining of an immunity to certain influences—though here, as elsewhere, the factor of individual variation is well marked.

In all these cases, the inborn tendencies to susceptibility or immunity play a very great part in the result, far more than they do in the case of mental immunities, because the limitations on the physical side of man are so much more definite than are those on the mental side. Hence it is that a very great mental life may be found associated with very great physical immorality. Physical tendencies are terribly unrelenting and are far less amenable to treatment or to alteration than are mental tendencies. In the physical sphere the immunities and susceptibilities of individuals, families, and races, have become more and more fixed by generations of selection, and are transmitted by heredity. But selection of mental characters is only just commencing. It will be the line of future evolution.

From the point of view of immunity, most physical immoralities leave the individual more and more susceptible after each indulgence. There are individuals in whom the effect of one attack is such as to render them immune in future ; but a contrary result is far more common. We saw this in the case of alcoholism previously

considered. To each of these different "lusts of the flesh" or physical immoralities, each individual is naturally susceptible or naturally resistant. Some are susceptible to one, others susceptible to others; some immune to one, some immune to others. Thus, one individual may be quite immune to the temptation of physical cruelty and at the same time, be very susceptible to sexual excesses. An individual may be extremely cruel, but sexually immune. The most extraordinary contrasts appear at times in one and the same person—apparently extraordinary, because it is not realised that these are matters of definite specific susceptibilities just as are disease infections. People are apt to think that an individual possessed of a generous and kind nature should also of necessity be a strictly temperate person. As a matter of fact, it is quite common to find the reverse. There is no reason why it should not be so. Immunity to one specific condition has not necessarily any effect upon another, nor any connection with another. When there is a connection, it just as often involves predisposition as protection. The most hopeless drunkard is quite frequently a most lovable character in other respects and often reaches a high moral standard in all other matters. Many a drunkard would not harm the most helpless child or animal nor be in the least tempted to other forms of physical excess. On the other hand the model of all the virtues is too

often a most unlovable person—as if his or her immunity to evil agencies was associated with an insusceptibility to many other influences, especially those of an emotional character.

Given the inborn tendency, then, the individual character becomes physically moral or immoral according to whether the tendency is overcome by an increase of the natural power of resistance, or by the acquisition of immunity, or, on the other hand, according to whether the tendency is yielded to and the capacity of resistance weakened. It is quite unnecessary to consider the physical immoralities in detail. The facts are notorious and the explanation is obvious. Each stage, whether upwards or downwards, is more easily reached than the last—the immunity gained or the susceptibility increased. Search the records of juvenile and other crime, ask the school teacher, parent, or pastor; better than all, let every reader put this book down for a moment and reconstruct for himself or herself the course of events in relation to the besetting sin. In the physical, as in the mental sphere, the greatest life is that of the individual who is immune to destructive agencies and susceptible to good influences. For the *average* person neither the highest height nor the deepest depth is reached in a moment, but by the long process depending upon increased power of resistance and acquired immunity on the one hand, or of a weakened power of resistance and an acquired susceptibility

on the other. No man is to be blamed for tendencies in one direction any more than he is to be praised for those in the other ; he is a success, or a failure, just in so far as he has done the best with the material given him by nature, and has acquired the most from the advantages obtainable from his environment.

The conclusion of this part of our subject is, that moral influences, mental or physical, conform in their mode of action to the general laws of immunity.

XV

EMOTIONAL IMMUNITY

IF our contention be correct—that the greatest life is a matter of one universal law—then all parts of the individuality must develop in accordance with that law. We have seen that purely intellectual processes, as well as physical habits, do so develop. They follow precisely the same laws as does the body in regard to disease infections. Without drawing any hard-and-fast line of distinction between the actual nature of intellectual processes and physical processes—all of which are so closely dependent upon each other—we may still conveniently consider another phase of the individual, namely, the emotional part of his nature. Emotions may be considered apart from volition or intellect, that is to say, as processes of a mental and physical character having their own peculiarities. Emotions are usually regarded as of one of three kinds—those of pleasure, those of pain, and those of a neutral kind such as astonishment. These are, of course, non-moral traits. Amongst them are the emotions of joy, anger, fear, grief, and love, and the analysis of any one of these will serve for the whole group

as far as our purpose—which is not a psychological one—is concerned. We shall take the emotion of love for our example, because it will perhaps be more readily seen to conform to the universal law—though, as a matter of fact, all the other emotions do so in exactly the same way. We would only preface this part of our study by saying that it is extremely important, for the simple reason that all systems of religion depend very largely for their results upon their power to influence the emotional side of their followers ; and we are in search of the explanation of these results. Doubtless some forms of religion are more emotional than others ; but all more or less appeal to the emotional side of man rather than to his rational side, and especially has that been the case in the past.

It will be simplest if we take the emotion of love in the ordinary sense—the feeling of affection for a person of the opposite sex. This will bring out the contrast between this emotion and friendship, and an analysis of the two and their conformity to the laws of immunity will illustrate this whole group of phenomena. Friendship usually involves the idea of an attachment to a person which proceeds from intimate acquaintance, or from a favourable opinion (that is, judgment) of the qualities of that person. But it may be merely a mutual intimacy, utterly regardless of admiration for qualities of high ethical value—which, indeed, may be absent. Friendship seems

to arise in one of three ways. As existent between two individuals, it is based upon (a) a common weakness, or (b) a common strength, or (c) a relative weakness in the one individual combined with the strength of the other. Friendships arising from the third condition are the deepest, truest, and most lasting.

(a) A friendship which arises from a common weakness in the characters of two individuals ends, as a rule, in one of two ways. The common weakness which at first attracted the two persons becomes in course of time a source of irritation to both, and a mutual intimacy may become impossible on this ground alone. Or a happier result may follow. It may be transformed into a case of the third variety—one of the individuals coming in contact with a character whose very strength is his own weakness, and a new intimacy being formed there. But friendships which have for their foundation a common weakness are neither deep nor lasting. They are really more of the nature of a temporary support and excuse for both individuals than anything else. Thus it is that we often see two people, who have a similar susceptibility to a particular moral defect, apparently friends on account of this common weakness. The intimacy hardly deserves the name of friendship.

(b) The case of a common strength seems more promising. Two strong characters invariably interest each other ; but, for friendship to ensue,

the strong point, in this case, must be the same in both. For example, two men are engaged upon a study or an investigation of the same subject, and each discovers that his strength is the other's also. A common feeling of interest is at once aroused, and a friendship results. But very often, by slow and imperceptible degrees, an unconscious spirit of rivalry not unmixed with jealousy springs up, unless both are immune to these emotions, which is not likely. At first the spirit of rivalry acts as a stimulus to fresh effort ; but gradually it strikes at the very root of that friendship, and, as the one succeeds beyond the other, the once common strength becomes a source of weakness. That is not to say that this must inevitably happen, but friendships developed from this source generally tend to that result. Of course many other influences may make their appearance as the intimacy proceeds, and those may counteract the tendency to dissolve the friendship. It will then become a case of the third kind.

(c) The elements out of which the truest friendships are evolved are, a weakness in one character along with a strength in another—the two fitting into each other, as it were. It is this which accounts for the common observation that the greatest friends are apparently so dissimilar. We see the point of difference in the two characters, and wonder. But often we do not observe the one common point which is strong in the one

and weak in the other—the one point which causes the two to fit together. It is not the points of difference which bring individuals into mutual intimacy ; it is the different degrees of strength on the point common to both. It may be called a dual commonality. For example, if, in the case already stated of two men equally interested in the same subject, instead of their being equally brilliant or nearly so the one was so immeasurably superior to the other that all possibility of rivalry were out of the question, then the common interest would be likely to produce a real friendship. For example, two men are strongly attracted to the study of the Unseen Power. The result of their study has resulted, in one case, in the loss of all belief in orthodox teaching. In the other case the man has become more and more convinced of the power and reality of spiritual influences. With such a combination a very strong friendship is apt to result, the source of friendship being a common interest.

In the next place let us examine the emotion of love and then observe how both love and friendship conform to the universal law. This emotion may be, and often is, perfectly independent of any intellectual appreciation of the person for whom it is felt. It may be sudden in its onset, and felt for one almost a stranger. Those persons in whom such an emotion is very readily aroused are rightly termed 'susceptible.' This emotion often precedes friendship in point of

time, and as often merges into that state in lapse of years. But the fundamental difference between the two from our point of view (which is not a psychological one) is a question of sex and sex-influence. It results from that subtle influence which is always in operation when a person of one sex is the object of attention from a person of the other sex. This influence is very hard to define, but no man will deny its constant existence—still less will any woman. When two persons of opposite sexes are brought together, all their thoughts, words, and actions are modified by the mere fact of this sex-influence. A man cannot speak to a woman on any subject in the same way in which he does to another man. His mental attitude at the time is determined by the sex-influence. How a woman speaks and thinks when she is with her own sex alone, no mere man can say ; but certainly it is in quite a different mental attitude to that adopted when in the presence of men. This is what is here meant by sex-influence. This sex-influence must be always acting, and all individuals of both sexes are more or less susceptible to its influence. When it is mutually strong, the two persons are said to be "in love." Such a state of mind may exist quite apart from any intimate knowledge or appreciation of each other, but, unless such appreciation follows, the emotion is apt to be but transient—a temporary susceptibility to the influences of sex. The fact that this influence results in a pleasing sensation to

both man and woman creates a desire on both sides to experience the emotion frequently and continuously—to be often in the environment which produces it. Should this happen, the elements of friendship may be added and the result be a combination of the two—a loving friendship.

Mere sex-influence soon loses its force for most and, unless it be followed by the elements of friendship, it will not serve long for any satisfactory purpose. In fact, in place of the susceptibility to the emotion of love there may not improbably come an immunity to that emotion, in which case only can there exist a real friendship between a man and a woman. This will be more clearly seen presently when we have applied the law of immunity to this emotion ; but it will perhaps be more simple if the various possibilities and combinations of these emotions are expressed in the shape of graphic formulæ somewhat as follows :—

Let M represent the Male.

Let F represent the Female.

Let m represent the male indefinable influence.

Let f represent the female indefinable influence.

Then $m + f$ = the bi-sexual influence.

The various combinations of the above result as follows :—

$M + M$ = Friendship.

$F + F$ = Friendship.

$M + F + (m + f)$ = Love.

The combination that is in dispute is—

$$M + F - (m + f).$$

which would, of course, result in Friendship. But as the bi-sexual influence $(m + f)$ must always be acting, the inevitable result is—

$$M + F + (m + f) = \text{Love}.$$

Such a scheme, however, though useful from the point of view of illustration is not, of course, the whole truth. There is another possibility, namely, that the sex-influence may be exerted by only one of the two individuals concerned—perhaps only by the male, though more often probably only by the female. In that case there would result a friendship on the one side and love on the other, an unfortunate condition of affairs which is not uncommon. Thus :—

$$\begin{aligned} M + m + (F - f) &= \text{Male friendship for the female; or,} \\ F + f + (M - m) &= \text{Female friendship for the male.} \end{aligned}$$

The first of these two cases might occur if the man were already in love with another woman. In that case he is immune from any similar attack from another quarter, whilst he remains susceptible to the influence which has already produced his condition. It is precisely identical with the law of immunity in the sphere of disease. A person under the influence of the virus of smallpox is perfectly immune from any further attack of that same virus operating from another source of

infection, and that immunity may persist for a very long time. Similarly, in the second case, if the woman is already in love she will be uninfluenced by the male sex-influence, and for the same reason. In both these cases the law of immunity would produce an emotion of love on the one hand and a condition of friendship on the other.

There is still another possibility, however. If both man and woman be already subject to this emotion they may be both immune from further attack, and in this case there may readily be a friendship between the man and the woman. In such an instance both individuals have been so thoroughly vaccinated, so to speak, with the infection of love from one source, and the sex-influence is already acting so powerfully from that source, that any other influence of the same kind is perfectly innocuous, and leaves them untouched. Hence these two may establish a true condition of friendship. The conditions and actions of these emotions, as stated above, throw light upon a good many cases which are regarded as somewhat mysterious. They also explain why it is that many men and women appear to be the subjects of these emotions so many times in their lives before they become the possessors of a lasting impression. These temporary and passing conditions of what is wrongly termed love, are nothing more than the transient effect of the sex-influence in a susceptible nature, an influence acting perhaps

strongly at the moment and called forth, it may be, by some very trifling occurrence, such as the touch of a hand or the glance of an eye. The attention of the two individuals in such a case is concentrated for the moment on each other, and the sex-influence creates a strong impression. Then the mind takes up the process and, dwelling on the idea of the pleasing sensation, magnifies it. If this be mutual, the two persons will probably continue to meet frequently, in order to renew the pleasing sensation experienced in each other's presence. Then their varied characteristics become known to each other, and, if the reality of these when experienced is in any way comparable to the preconceived ideal, there is every prospect that to the first emotion due to the temporary action of the sex-influence, there may be added the mutual appreciation which is involved in friendship. But on the other hand should circumstances prevent the first emotional impression from being followed up by succeeding ones—and the two persons not meet again—the effect will soon wear off, and in most cases eventually leave absolutely no trace of its former existence. Every one must have had experience of such a process probably more than once in a life-time.

As regards the statement involved above, that friendship between man and woman is only possible or, at any rate, more easy of accomplishment when both are already in love, there is an

exception to be noted in those cases where there is great disparity in the ages of the individuals. Such cases occur with young men and very much older women, and *vice versa*. But the reason is obvious. It is simply because in these cases the sex-influence is exerting its least possible effect ; it is at its minimum possible strength of action and may perhaps be altogether ignored. Instead of an emotional process it is an intellectual one, and is practically the same as in two individuals of the same sex.

But if the law of immunity be true for such conditions as we are considering, it must be capable of affording an explanation of all the phenomena ; and there is still another case which was put to the present writer with a view to testing its application in this connection. How can those cases be accounted for in which a man falls in love with a woman ' at first sight,' but is prevented from following up the impression then made, remaining separate for years, at the end of which time when opportunity occurs by their meeting—to put it briefly—' all ends well ' ? Such cases may be accounted for—supposing that they happen, thus : The first impression, namely, the sex-influence, was produced in a mind naturally extremely susceptible to that kind of influence. After that took place the mind dwelt upon the sensation produced and, converting it into an intellectual process of ideation, built up around the original emotional impression an ideal

which, in course of time, became a reality to its possessor—especially if, from his surroundings, no second impression of a similar character weakened the first one. The process then can be taken up—no matter after what lapse of time—exactly where it left off, and the result is only different because now the circumstances are favourable to its continuance. In such a case the first emotional impression rendered the individual immune to a similar influence from any other source, while still retaining its power of action from the original quarter.

We have dwelt at length upon this description of the emotion of love, because the emotion itself is such a powerful one for good or evil and, moreover, is experienced by all in some degree or other. In addition, it exemplifies extremely well the way in which the law of immunity works in the sphere of the emotions and, besides, it throws light upon the working of that law in many mental processes which are usually associated with the soul of man. All possess some amount of susceptibility to the influences of emotions, and in almost every individual one may find examples of the fact that susceptibility to one emotion confers upon the person so affected a corresponding immunity to some other emotion. This is a fact to be taken advantage of in any system of training which aims at the highest life. It means that a man's whole life may be dominated by a sufficiently powerful influence of an emotional character, provided he

be either naturally or by acquirement sufficiently susceptible to that emotion. In the succeeding part of our study of this subject we shall see that this very fact of emotional susceptibility and immunity is of the very greatest importance from the point of view of living the greatest spiritual life. Emotional development—just as physical, mental, or moral development—is a matter of conformity to the law of immunity.

CHAPTER XVI

SUMMARY OF IMMUNITY

It will be well at this stage to gather together the various lines of thought which we have been following, and endeavour to see how they have been aiding us to form a conception of human nature and its possibilities. It would appear that this conception may be briefly summarised as follows: Human nature may be regarded as being composed of two great parts or divisions which, for the convenience of descriptive purposes, may be termed physical and non-physical, the latter portion including everything which we cannot conceive in terms of the former. According to this view, man is therefore liable to be affected by two sets of factors—one consisting of actual physical influences of a material kind, the other consisting of non-physical and possibly immaterial influences. These latter are, of course, just as real as the material factors, but their precise nature is not fully understood. The laws which govern their action, however, as well as the results of that action, may be understood if what we have said is correct, and, indeed, we are strengthened in the conclusion that these laws

are identical with those which are found to exist in the physical sphere. Our great object should be, to discover the laws which govern these two sets of influences so that man may attain his highest possible development, both physical and non-physical. Inasmuch as many instances in which these laws operate in man's physical nature have been studied and the law discovered as far as they are concerned—often to such an extent that man can control and direct them, so it is maintained that it should be possible for him to discover instances of their operation in the non-physical sphere with a view to controlling them for his own benefit in the non-physical part of his nature.

There are certain physical processes which act upon man with beneficial results, and to these processes he must endeavour to make himself as far as possible susceptible. There are other physical processes which are observed to cause deterioration to human physical nature, and to these processes—since they are universally present in the world and cannot be avoided—he must endeavour to become immune. So in the non-physical world. There are certain influences which develop, elevate, and purify man's mental and moral nature; it is therefore his duty so to arrange his life that to these influences he becomes as susceptible as possible. There are other influences which corrupt, suppress, and ultimately often destroy the mental and moral nature of man.

These conditions are also universal and unavoidable and therefore to them, also, man must become immune. Physical perfection should, if possible, come first, in order that there may be a healthy mind in a healthy body and in order that the moral faculties may have the best opportunity for full expansion. Disease or imperfection of any kind in the physical nature inevitably has its counterpart in the mental or moral sphere of the same individual. This may be regarded as evidence that what we deem the non-physical is to a certain extent dependent upon the physical—often, if it be not so entirely. But, since the nature of that interdependence is in many cases unknown, physical processes and non-physical processes will of necessity have to be dealt with separately. In those cases in which their connection and relationship is clearly established they should be dealt with at one and the same time.

Every individual is born with a certain number of both physical and non-physical tendencies. It is of the utmost importance for his future that these should be accurately determined as early in his life as possible, so that the individual may be placed in such an environment as will encourage and ensure the development of the advantageous tendencies and the suppression or elimination of the disadvantageous ones. These tendencies are for the most part inherited. Here and there, one appears for the first time in a particular

individual. A certain proportion of both the physical and non-physical tendencies can be foretold for any individual whose pedigree is ascertainable for three or four generations. A certain small proportion cannot be foretold, but arise in accordance with some law the operation of which is at present unknown. It is certainly due to these unforeseen variations that it is at present impossible to control entirely man's physical and non-physical development. The discovery of the laws which govern the appearance of variations is merely a matter of time ; and when those are fully understood man's destiny will be entirely in his own hands. Even at the present moment quite enough is known for most practical purposes but—as has been well said—though science has shown the way no one as yet proposes to take it.

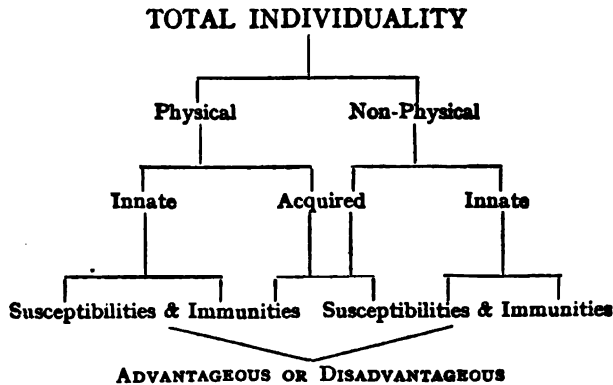
It is further necessary to understand that these tendencies, both physical and non-physical, are to be regarded as falling into two distinct categories. In the one category are placed those which the individual possesses in virtue of being the person he is, or because they are peculiar to the race to which he belongs. These are natural, innate, or inborn, in the individual, species or race. Every individual has certain of these inborn qualities which are either in the direction of susceptibility to physical or non-physical influences, or are of the opposite kind, that is, in the direction of immunity or non-liability to the same influences. It is a commonplace

of observation that one person can withstand a physical strain, a mental experience, or a moral temptation, which would be either fatal or impossible to another individual. This is because the former person has a greater degree of natural resistance to these particular influences than the latter. Every individual has some amount of this natural resistance; else would physical, mental, and moral life be an impossibility. We have, then, in the first place, a number of physical and non-physical qualities in every person which are termed natural, innate, or inborn, and these tendencies render that individual more or less liable, as the case may be, to certain agencies or influences corresponding to them.

But there is a second category not less important. It is again a commonplace of observation that a person who was at one period of his life extremely liable to be affected by some particular physical or non-physical influence is now no longer so affected, no longer apparently subject to this influence. In other words, he has acquired a resistance which was not natural in the sense of being inborn. He may have acquired this resistance or immunity as the result of suffering or experience or habit, or from the example of others; but in any case it is a new thing in his life—an acquired character. And, just as he may acquire this power of resistance to physical influences as instanced in certain diseases which do not attack the same individual more than

once, so, unfortunately, he may acquire the new character of being more liable to this particular influence than he was before. This likewise applies to the non-physical world. In both spheres we recognise the second category of tendencies which we term acquired, in opposition to the first class which we term natural, innate, or inborn.

It will be seen at once, therefore, that the physical, mental, and moral qualities of any individual depend upon the sum total of the action of these natural and acquired characters. And if this conception be true, as we believe it is, human nature—which is apt to be regarded as a most complex mechanism—is in reality a comparatively simple mechanism which for the sake of clearness may be represented thus :—



It is impossible to conceive any part of human

nature which is not the result of one or other of the factors thus indicated. The total individual character or personality, physical, and non-physical, depends upon the relative proportions of these different elements, and especially upon whether the protective or the destructive tendencies predominate. Nothing can come into a man's life, save through one or other of these channels. The whole is the sum of the parts. All that a man is, has been, or may ever be, is expressed in these factors. Life and death, good and evil, ability and stupidity, mortality and immortality, are matters of susceptibility and immunity. Looked at in this way, life is a condition of matter in which it is susceptible to such agencies as confer upon it the power of growth, assimilation, and reproduction; death is the result of the susceptibility to the influences which make for physical decay and destruction. Good is immunity to influences of evil; and evil is insusceptibility to influences of good. Mortality is the susceptibility in any phase of life to destructive agencies; immortality is a mental conception of a condition in which there would be complete immunity from all such influences. It is conceivable that an immunity from death might be secured in course of time, as man becomes familiar with the laws of life at its origin; but the idea of unending existence in *any one state* is quite another matter. It would seem as if adaptive change must be ever in operation, and

in that case everlasting life must be of such a kind as cannot be conceived, at present, by any human mind.

Such, in brief summary, is the conception to which we are led by the consideration of the facts adduced. It involves the belief that man can attain to this and avoid that, by placing himself under the influence of certain agencies and avoiding the influence of others. As long as he is too young to choose for himself, he must be guided by the experience of his elders. The only difficulty in the practical application lies in the unknown factor of variation; but that is a difficulty which occurs only in exceptional cases. For the mass of mankind, the way is clear. In ninety-nine per cent. of cases the result can be foretold with certainty. In the one exceptional case some factor—which in the present state of our knowledge cannot be estimated—comes into play and produces results—good or bad—which seem astonishing, as indeed they are. This is the factor of personal variation or idiosyncrasy, proverbially recognised in such common phrases as, "What is one man's meat is another man's poison." As a rule, however, these variations are so small that they serve only to differentiate personalities—not to upset the results of processes. They cause these results to differ in degree rather than in kind, just as a given dose of a drug produces more or less action—but the same kind of action—in different individuals according to their varying susceptibility.

In the physical sphere, the greatest life is that of the man who is naturally and by acquirement most immune to all that is detrimental to his perfect development. His highest aim is to render himself so immune, and at the same time to become as susceptible as possible to all that is conducive to physical perfection.

In the non-physical sphere, the greatest life is that of the man who is naturally and by acquirement most immune to all that is destructive to his perfect development. His highest aim is to render himself as susceptible as possible to all that is conducive to mental, moral, and spiritual perfection.

If this view of human nature be the true one, then it of necessity follows that the spiritual life must be contained somewhere within it and that the phenomena known as spiritual are capable of explanation.

The possibilities for the formation of character in any individual—and, after all, character is the thing which is at stake—are simply the sum total of the susceptibilities and immunities of that individual for good or evil. What exactly is good and what exactly is evil, can only be judged in the terms of some standard set up by general consent as the result of the experience of a community, or else put forward as a personal conception by some individual. In the latter case, we have the founding of a creed, or a system of religion, originating in some individual whose

mental and moral perceptions appear to be far in advance of his time but which, in reality, are the product of all that has gone before. There can be no such thing in human life as absolute good or absolute evil. Both terms are meaningless, except in reference to some recognised standard. Given the standard—for instance, that put forward by Christ—every person has within him some tendencies to good and some to evil. He is also naturally immune to some agencies of evil as well as to some agencies of good. These agencies are of infinitely varying strengths and proportions, both in the ethical sphere and in the physical. There are racial, family, and individual peculiarities, in the one sphere as in the other. As we have before stated, all have some natural power of resistance to evil ; else none would be good—even comparatively so. But some are much more susceptible to degrading influences than are others ; while some, again, are far more easily than others influenced for good.

Natural immunity to evil agencies—like natural immunity to some physical conditions—can be increased. And a natural tendency to evil—like a natural tendency to disease—can be readily increased also. An innate susceptibility to that which is good may be developed by environment and example—just as a person who is liable to tuberculosis will readily contract that disease from contact with an affected person. It there-

fore follows that no individual should be judged by his acts unless his tendencies are also estimated. It is of course quite another matter to judge the acts themselves. It is just as impossible for an individual possessed of a strong inborn immunity to alcohol to become a drunkard, as it is for the person with strong hereditary criminal tendencies to live the life of a saint. Neither of them deserves any credit nor any blame, except in so far as they have succeeded or failed in developing or crushing the innate tendencies.

These moral tendencies and insusceptibilities are somewhat different in the two sexes, just as males are more liable to certain physical conditions (for example, colour-blindness and stammering) than females, and just as females are more subject to some diseases (for example, hysteria) than males. It therefore follows that an identical condition of morality and religion cannot be expected from both sexes. One sex will excel in certain directions, will exhibit particular virtues; the other will be more likely to manifest other virtues. Men will be prone to some faults which pass lightly over the heads of women, and *vice versa*. These considerations must be taken into account, in forming accurate judgment in any given case. Such a statement does not, of course, imply that the standard attained by one sex is absolutely higher than that of the other. What it does imply is, that the qualities exhibited tend to be somewhat different. It will hardly

be denied that naturally, that is, by inborn tendency, women are more religious than men. Whether they are any better on that account—in the eyes of absolute justice—may be questioned, as was long ago pointed out by Oliver Wendell Holmes. The effect of the sum total of all inherited tendencies in any individual is not less marked in the moral sphere than in the physical, though to the unobservant it is perhaps less obvious. It can hardly be doubted that, by a careful selection of parents for several successive generations together with full control over the moral environment, it would be perfectly possible to produce a family of any required moral standard—always considering the recurrence of new variations from time to time, as well as the possibility of some of the characters of remote ancestors appearing in the offspring. Whether it would be a desirable course to take or not, is one of the questions which will have to be settled in the, perhaps not distant, future.

It follows, from these circumstances, that it is manifestly absurd to expect a large number of individuals to live, think, and act, in an identical manner in any given community. Such a uniformity of type is absolutely impossible under natural conditions of human production, and could only be expected by those entirely ignorant of all the factors that unite in the making of a man. It is the duty of those to whom the administration of a community is entrusted, to

study the physical and moral capacities of each individual, and to place him or her in such circumstances as offer the greatest development for the tendencies to good, together with the least opportunity for the growth of propensities to evil. In order that that could be carried out with the greatest chance of success and the least possibility of error, the most minute records of successive generations of families would have to be kept, marriages so arranged that the best results would follow the union and—most important of all—the training of the children begun from their very birth on such lines as their physical, mental, and moral ancestry showed to be the most suitable in each particular case. That would not mean that marriages must be arranged irrespective of the feelings of the individuals concerned. Indeed, such a course would be in direct opposition to all the laws of moral immunity and would probably result in disaster, because it is the two individuals concerned who are alone best able to estimate the effect upon each other of *certain parts* of their nature. But it does mean that every man and woman should endeavour to become so physically sound, so mentally sane, and so morally perfect, that it will be no longer possible for them to contemplate a union with an incompatible nature. Such individuals could not be unequally yoked together. Any form of compulsion destroys the possibility of a truly natural selection.

It often happens that two people apparently

very different from each other are strongly and mutually attracted. This is a natural law for the maintenance of the average and balance of the species. It is necessary in a large community, in order that the social life of that community may be harmonious, that the *majority* of its members should be persons of average physical development, average intellectual ability, and average moral standard. That average, however, in the evolution of the race should be a progressively higher one. The maintenance of that average is a universal law found to prevail amongst all animals and plants. The progress of the race, however, is in the hands of a few. Those individuals who are born with *exceptional* physical, mental, and moral, susceptibilities and immunities, are those who have great capacity for increasing their natural power of resistance to detrimental agencies of all kinds. In order that these select few may attain their highest development for the benefit of the race, it is not fitting that they should marry outside their own physical, mental, or moral rank; but, within that rank personal choice must be absolutely unfettered. When extreme exceptional characters arise in a community—which generally happens as a variation in a somewhat-gifted family—the greatest care should be taken to preserve and accentuate that particular characteristic which has appeared, by means of a judicious union in marriage. By such marriage

with another person having a tendency in the same direction, or a similar immunity as the case may be, the new characteristic would be strengthened and perpetuated for the benefit of posterity. Should the new variation be of a distinctly injurious kind, either from the point of view of the individual or the community, every effort must be made to eradicate it, in the individual, by suitable training in early years, and, in the race, by a marriage with one immune to the injurious tendency or strongly susceptible to some counteracting quality. It might even be necessary to forbid marriage at all; and the time is undoubtedly coming when the community at large will have to decide for themselves whether unfit individuals should be allowed to propagate their kind at the expense of the community.

In order that the best results may be obtained from the individuals of a community for the benefit of all, it should be recognised, of course, that certain qualities (immunities and susceptibilities) in men and women confer upon them special fitness or unfitness for certain occupations. A quality that is advantageous for one occupation may be a very distinct disadvantage for another. A man whose dominating characteristic, for example, was great bodily strength with the courage of the lion (that is, an absolute immunity to the emotion of fear), would in former days obviously have found his *forte* in the ranks

of warriors ; but at the same time these qualities—admirable as they may be in themselves—might have made him an utter failure as a diplomatist or in other ranks of life. Every man has the defects of his qualities. The deep thinker, whose patient researches bring forth results which revolutionise the methods of a century, may be—and frequently is—an absolute failure as a teacher of others. One man can create thought ; another can impart it. The placing of the one in such a position where he is expected to do the work of the other, generally results in a wanton waste of exceptional ability.

Most moral defects are coexistent with corresponding physical degenerations which can sometimes be detected but which are frequently beyond demonstration. For these the unfortunate individual cannot be blamed, but it is nevertheless necessary for the community to take steps to protect itself against the results. The proper treatment for such cases should run upon precisely similar lines to those adopted in the case of purely physical imperfections. The individual must become immune to the special temptation or influence, or else render himself so susceptible to some more powerful influence of an opposing kind that he is no longer a danger to himself or others. It is just as practicable to become immune to hatred as it is to become susceptible to love.

The great difficulty, however, in thus dealing

practically with the scientific treatment of the non-physical side of human nature, is the same difficulty which occasionally interferes with the attainment of the usual results in the physical realm. That difficulty is, as we have mentioned already, the uncertainty of the personal factor of variation. And along with this is the fact that different moral influences act in varying degrees at various times, even in the same individual. Exactly the same phenomena is found in disease. An individual may be living in the midst of an epidemic of some kind for weeks and for months, without becoming infected. At another time the same person exposed to the same infection for a single moment, is struck down. The same thing holds good in the moral and religious sphere. A man will resist a special temptation for years ; but let the same influence become active from a new source, and he falls. This flaw at present cannot be controlled ; but its effects are sometimes deplorable. Again, exposure to some moral influences leaves the individual immune to them in future, whilst in the case of others each succeeding exposure results in a more powerful attack than before. But by taking advantage of these various modes of action in the non-physical as well as in the physical world, man may become more and more immune to some evils, and more and more susceptible to some good influences, whilst the susceptibility to evil may be overcome by the in-

fluence of a still more potent kind of an opposite nature.

In such a view of human nature as this, there can be no laying-down of crude dogmatic assertions, no hard-and-fast line of conduct or belief to which all must subscribe on pain of perishing everlastingly, no threats of punishment for faults inherent in the individual nature, but a full recognition of man's inability, of himself, to do more than in him lies, with the sure and certain promise that a given line of conduct will be followed by equally certain results, to a degree in which each individual is capable.

PART III
THE APPLICATION

Part III

CHAPTER XVII

IMMUNITY IN RELIGION

AT length we are in a position to apply the explanation of man's personality put forward in these pages, to religious phenomena. The reader will by this time have seen very clearly whither our argument is tending, and will easily have anticipated for himself what remains yet to be stated. Indeed, we might have stopped at this point—satisfied with the simple statement that as it is in the physical, mental, and moral spheres, so it is in whatever other sphere remains. After all, the subject in which religious phenomena take place is an individual; and an individual is made by processes which we have already fully studied. Further, we are only concerned with that individual in so far as he manifests in his life certain remarkable changes—changes which have been recorded as partaking of the mysterious and resulting from the interference in man's nature of supernatural laws. As a matter of fact, it must be quite obvious by this time that the religious individuality—the spiritual

life—just as any other kind of life, is the sum total of what we have learned to call immunities and susceptibilities of any given nature. It only remains to state the answer to the problem which we set out to solve, in the terms of the laws which we have found to apply universally. As we have already said, the statement will have been anticipated and could have been quite well left for each reader to suggest to himself; but it may be as well to make some attempt to express this answer in terms so simple, as to admit of no possible misunderstanding, an attempt which may assist some, and attract others to make the experiment for themselves.

Finally, then, comes the tremendous claim made by the founders of all systems of religion, and pre-eminently by Christ—the claim that they were able to confer upon all who would submit themselves to the method put forward, a capacity for living the greatest life. That claim was made in no ambiguous words, and it applied to every part of human nature—physical, mental, and conspicuously to the moral. Christ Himself had no shadow of doubt upon the matter at all. He was firmly convinced that He—and apparently He alone—held the solution of the treatment which should be applied to human nature in order that that nature should rise to its highest level. We are not concerned with any other system than that founded by Him and which bears His name, nor with any other

methods than those which He put forward ; but it may be noted in passing that the methods of operation of any other system and of any other teacher are based upon exactly the same laws.

Put into modern scientific language, the offer made by the founder of Christianity is that of a method of treatment for the individual, in virtue of which method and as the unfailing result of which treatment that individual may become resistant to all adversities which may happen to the body and to all evil thoughts which may assault and hurt the soul. In other words, what is offered by Christianity is a complete immunity to harmful or destructive agencies of every kind, an immunity which is a necessity—from the frailty of our nature—for the living of the greatest life. It is claimed for this system that man can be rendered insusceptible to moral infection and to mental sin, as well as to physical suffering. As regards the last point, it need only be said here that Christ's gifts of healing do not appear to have been different in kind from those of others, but only different in degree—a degree which in itself can hardly be regarded as astonishing, if the character of the operator be taken into consideration. No one who knows anything at all about the nervous phenomena which can be produced by certain individuals in other individuals, can have any difficulty in formulating a perfectly satisfactory explanation of Christ's power in this direction. It is not with

that aspect that we are specially concerned. We are in search of the explanation of the greatest lives which can be produced in accordance with His methods. We want the answer to the question, How? We come to the conclusion that the method is that of every great religious teacher and that—in one single phrase—it is nothing more—and there can be nothing greater—than the application of the universal laws of immunity in the sphere of the physical and the non-physical.

The method advised is precisely that of the modern scientific physician who is not content to trust to his patients' inborn power of resistance to disease in order to obtain recovery, because he knows full well that the risk is too great. The moral and spiritual teacher sees the same risk in his sphere, and takes the same line. The scientific physician urges upon his patient the advisability of submitting himself to a protecting treatment rather than of allowing himself to be exposed to suffering from infection in the hope of acquiring immunity on recovery. In other words, both realise that prevention is better than cure. Infection of all kinds is all around us—physical infection, mental infection, moral infection. The religious teacher offers a method of treatment which is claimed to render an individual insusceptible to moral infection, at any rate for a time—a method of treatment which is safe in its mode of application and which is

not merely preventive but also curative. That this claim can be substantiated, is a simple matter of experience. It can be seen operating any day in the lives of those who are submitting themselves to its influence. True, the effect is temporary. All artificial methods of conferring immunity are so more or less ; but the supply is inexhaustible and the result certain. All religious teachers have recognised this. It is never stated by any of them that the process is a mere matter of a moment, requiring no further application, but rather that continued effort in the direction indicated is the essential factor for success. Like the modern physician, too, the religious teacher has realised that it is not desirable for the individual to experience the effects of demoralising agencies at all, even should he thereby acquire immunity. As we have already seen, that process is a dangerous one. The claim is that there is no necessity to suffer from moral disease at all, even in a modified form. The treatment is ready for use. It has been elaborated by many experiments upon immense numbers of individuals, the susceptible person being invited to put himself under the influence offered, in order to find whether he will acquire immunity from attacks which would otherwise prove too potent for him to resist. Just as, in the sphere of disease, we have come to see that it is too dangerous to expose people to diseases, such as small-pox, with the view

and in the hope that they will acquire immunity on recovery, so those who lay down the moral law, have clearly recognised that the infection of sin is too deadly to be treated on those lines. Experience teaches that the majority of those who suffer will reap the moral death which is the wages of sin.

Christianity therefore claims that if the advice of its founder be followed it will be found a simple and certain prophylactic from sin, or at any rate from its most serious results, and that it is so because of an immunity conferred which will save a soul even if it be *in extremis*. This influence will be found so strong that it is able to overcome all other influences which are of an antagonistic nature. There is nothing which is too strong for it ; but it is an influence which must be sought continually, lest its effects wear off. All acquired immunities tend to do this. Because an individual is immune to-day it does not follow that he will be equally so a year hence, nor even to-morrow, when he may be once more exposed to the same infection or temptation. Therefore, whatever means be adopted to confer this artificial immunity upon individuals, those means must be sought constantly.

Stripped of all the dogmas and practices which have grown up around Christ's own life and teaching, that is the offer which He makes to mankind. In the light of the study of the laws of immunity, it appears a strictly scientific offer. It undertakes

to prevent the operation of one influence or agency or set of such, by that of another more potent. That is the law of life. The thing must happen. It is the method which we ourselves adopt in dealing with our fellow-men in daily life. It is the only method which can be adopted to bring about results with certainty, and it is the only way in which the individual can be saved from the results of any influence—be that influence physical or non-physical.

What, then, are the conditions necessary for any person who desires to become the possessor of this Christ-given immunity? The answer is clearly laid down by the teacher Himself, both by His spoken words which are recorded, and in the descriptions of His dealings with men who came to him for advice. The conditions are precisely the same as those which would apply to any individual who desired to obtain an immunity to any harmful agency in any part of his nature, and who, for that purpose, sought the advice of an expert upon the subject. Such an individual would have to adopt one of two attitudes. He might, in the first place, put himself wholly and unreservedly in the hands of the expert with a perfect faith that whatever the advice given and whatever the treatment adopted would be the best under the circumstances. That is the condition of the receptive mind—the attitude of faith, possessed in the greatest degree by the child-mind which, from

lack of experience, is willing and able to act upon the authority of others. Such a person, having selected to the best of his ability what he considers the best possible source from which to obtain the information required, believes without questioning—and acts accordingly. His reward is the result obtained.

But, in the second place, there are individuals, as we saw in the earlier part of this book, in whom, for some reason or another, this attitude of mind is not available. The mind has either been interfered with or resisted in its development in such a way that it can no longer acquire truth by the simple act of faith; or else it has been *so educated* in all its various phases that it has acquired the habit of accepting no truth except such as can be demonstrated. This is the type of the modern mind which has adopted the scientific attitude of judging results by experiment. The advice to such an individual given by such an expert would not be the same as that given to the child-mind. He would be told that the result he desired to obtain would be acquired by following out certain lines of conduct. In other words, no effort would be made to convince him beforehand of the truth and validity of the advice offered; but he would be made to *convince himself* of its truth, by observation of the results which would follow experimental application. In the one case the result is obtained by simple faith;

in the other case the result is obtained by the observation of experimental processes. To the latter individual the reward is the same, but, in his case, belief comes last instead of first. It is a result of experience—a marked characteristic of the minds of the present day. The explanation in both cases, as well as the process, is identical. Does a man find himself unable to adopt the child-attitude? Then, should he wish to obtain the result which he sees is obtained by those who can adopt it, all he has to do is to follow out certain lines of physical mental, or moral procedures, and note the results which happen. He will then find that he obtains, as the result of his experiment, exactly the same condition as the former person did without question.

May we say, then, that we have, to some extent at least, answered the questions which were suggested by our problem. Some of these questions were: How can the act of believing bring about the results claimed for it in the direction of living the greatest life? How is it that the wicked man turns away from his wickedness and does that which is lawful and right? How are some individuals so obviously less sinful than others? Why do we see that some men suddenly change the whole method of their lives, and why do others do so gradually? In a word, what is the power in what are called religious processes to produce these startling phenomena?

Belief accomplishes what is claimed for it, simply because it is followed by certain courses of action; a faith without works produces nothing. The works follow, because the mind becomes more and more immune to certain agencies the longer and the more strongly the belief is held. The standard reached differs with every individual, because the kind and amount of the inborn tendencies differ. The capacity of acquisition possessed by one individual is not that of every other, though at the same time there is an average capacity in the majority of people.

The suddenness, or otherwise, of the change observed in those acting under Christian influences demands a further word. Be the change sudden or gradual, it is in the nature of an acquired immunity, the result of an opposing influence coming into action. We have already seen many cases which illustrate how an immunity may be acquired suddenly, and how it may be acquired gradually. In the physical sphere a sudden acquisition of immunity is the result of the transference of substances elaborated in the tissues of one individual, to those of another. Such a process is carried out, for example, in the serum treatment of diphtheria. An immunity acquired in such a way has one advantage and one disadvantage. The advantage is, that its action is immediate and curative and that the process can be carried out upon an individual

even though he be at the point of death. The disadvantage of such immunities acquired suddenly is, that the effect is transient and temporary, and confers a protection which lasts only for a week or two. Nevertheless, the source of that immunity, when once known, is always available, and the supply of the serum, once its manufacture is understood, is unlimited.

The immunity which is gradually acquired is, however, on quite another footing. It is attained by the individual in one of two ways. It is either the result of recovery from the disease itself or a modified form of the disease (a process which we have seen repeatedly to be very dangerous); or else it is obtained by becoming possessed of some antagonising influence or by establishing a habit of tolerance. The advantage of this gradually obtained immunity is, that, once it is possessed by an individual, its effect is permanent, or at any rate lasts for a very considerable period. The disadvantage of this process is, that the method is not adapted for immediate curative processes but is a method of prevention. Now, prevention is better than cure; and the conclusion therefore is, that the scientific expert would advise the individual to obtain an immunity by slow and gradual processes, in order that, when obtained, it becomes a permanent characteristic of its possessor. He would at the same time, of course, never hesitate to prescribe the curative

treatment for an individual who was already suffering.

Once more, we repeat, these laws are universal. Their application in spheres other than physical should now be so obvious as to require no further elaboration. The sudden change of character is the immunity obtained as the result of a profound mental and emotional impression which manifests itself immediately in an altered course of action. This phenomenon is constantly seen in those cases which are described as "sudden conversions." It is a commonplace of observation that such sudden changes are usually followed by a relapse into the old methods of living. As we have seen, that must be expected in the nature of the case. Where the result is permanent, it is because there is a constant renewal of the same potent influence from the same or a similar source; and people who are actuated in their lives by influences of this kind require to be constantly exposed to the action of these powerful emotions. Such individuals are to be found in numbers amongst the more emotional—not to say hysterical—members of all religious persuasions. They can only maintain their immunity apparently by repeatedly submitting themselves to the process described. There follows, however, in those who do so, the establishment of the habit of life which may, and in many cases does, become fixed—so removing the necessity for repeated emotional stimulant.

In the other group are those in whom is seen no very striking change in their mode of living at any given moment, and of whom it could never be said that they became "converted" at any particular time, but who, nevertheless, show a constant and gradual progress towards a higher life. One after another of their harmful tendencies are gradually becoming eliminated, and in their place are a number of susceptibilities to good, which lead in time to the remark one often hears of certain individuals, to the effect that they seem very different from what they were some years ago. No sudden transition has taken place, no hysterical manifestation of emotion, but a gradual process culminating in the high ideal of acquired immunity.

The Founder of Christianity Himself clearly recognised these two distinct processes. He used both methods. To those who could believe without effort and act accordingly, He gave the advice to do so. To those who could not believe but were willing to act and be convinced by results, He gave clear instructions as to what they should do, and what they should not do, together with the promise that the result would be what was desired.

CHAPTER XVIII

THE SCIENCE IN CHRISTIANITY

IN the early part of our study concerning the making of a man, we drew attention to the fact that the growth and development of his inborn tendencies (susceptibilities and immunities) were in response to the stimuli of, first, nutrition; secondly, use; and, thirdly, injury. We may conclude our brief application of the laws of immunity in the sphere of religious phenomena by showing that the same fact applies to this sphere also. What is meant by nourishment, in this sense? It is surely evident that growth in the "things of the spirit" must be just as dependent upon an adequate food supply as is the growth of the physical body! There must be a specific pabulum to be digested and assimilated and so built up into the complete individuality. The food, therefore, in such a case is that upon which the mind feeds and the emotions develop—influences from without which call forth their corresponding tendencies within—ideas suggested from many sources stimulating mental processes in many directions. Without such food the inborn tendencies could never

